

LIBRA JOURNAL CLUB

31-MARCH-06-APRIL-2024

Our legal office confirmed that articles NOT OPEN ACCESS cannot be distributed to the members of the list. Thus, we will transmit only the titles of articles.

ABSTRACTS of almost all these articles are available from PubMed, and full papers can be obtained through your institutions' library.

OPEN ACCESS articles are available by accessing the articles from PubMed using just the PMID for the search (eg PMID: 35514131 without . at the end)

Chronic Obstructive Pulmonary Disease

1
COPD

•
•
•

. 2024 Dec;21(1):2328708.

doi: 10.1080/15412555.2024.2328708. Epub 2024 Apr 4.

Comparative Efficacy of Budesonide/Formoterol Versus Fluticasone/Salmeterol in Patients With Moderate-to-Severe Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-Analysis

[Nan Shang](#)¹, [Yang Liu](#)², [Yueping Jin](#)¹

Affiliations [expand](#)

- PMID: 38573085
- DOI: [10.1080/15412555.2024.2328708](https://doi.org/10.1080/15412555.2024.2328708)

Abstract

Background/objective: To compare the efficacy of budesonide/formoterol (BF) versus fluticasone/salmeterol (FS) in patients with moderate-to-severe chronic obstructive pulmonary disease (COPD).

Methods: The PubMed, Embase, Cochrane Library, and Web of Science databases were searched for studies comparing BF versus FS in the treatment of COPD from inception to July 17, 2023. Outcomes, including exacerbations, hospitalizations, pneumonia, emergency department (ED) visits for COPD, length of hospitalization, and number of exacerbations, were compared using risk ratio (RR) with corresponding 95% confidence interval (CI) or weighted mean difference (WMD) with 95% CI. All statistical analyses were performed using Stata version 12.0.

Results: Ten studies comprising a total of 136,369 participants were included. Compared with those treated with FS, patients with COPD treated with BF experienced a reduced number of exacerbations (RR 0.91 [95% CI 0.83-1.00]; $p = 0.040$), hospitalizations (RR 0.77 [95% CI 0.67-0.88]; $p < 0.001$), and frequency of pneumonia (RR 0.77 [95% CI 0.64-0.92]; $p = 0.05$). However, no significant difference was observed between BF and FS in terms of ED visits for COPD (RR 0.87 [95% CI 0.69-1.10]; $p = 0.243$), length of hospitalization (WMD -0.18 [95% CI -0.62-0.27]; $p = 0.437$), and number of exacerbations (WMD -0.06 [95% CI -0.28-0.16]; $p = 0.602$). Notably, no significant heterogeneity was noted in length of hospitalization between the two groups, whereas clear heterogeneity was observed in other outcomes ($I^2 > 50\%$, $p < 0.05$).

Conclusion: Compared with FS, BF therapy appears to be a more promising treatment strategy for patients with moderate-to-severe COPD; however, this should be verified in further high-quality studies.

Keywords: Budesonide/formoterol; chronic obstructive pulmonary disease; fluticasone/salmeterol; meta-analysis.

[Proceed to details](#)

Cite

Share

2

COPD

-
-
-

. 2024 Dec;21(1):2327352.

Causal Role of Immune Cells in Chronic Obstructive Pulmonary Disease: A Two-Sample Mendelian Randomization Study

[Xinru Xiao](#)¹, [Ziqi Ding](#)¹, [Yujia Shi](#)¹, [Qian Zhang](#)^{1,2}

Affiliations expand

- PMID: 38573027
- DOI: [10.1080/15412555.2024.2327352](https://doi.org/10.1080/15412555.2024.2327352)

Abstract

Accumulating evidence has highlighted the importance of immune cells in the pathogenesis of chronic obstructive pulmonary disease (COPD). However, the understanding of the causal association between immunity and COPD remains incomplete due to the existence of confounding variables. In this study, we employed a two-sample Mendelian randomization (MR) analysis, utilizing the genome-wide association study database, to investigate the causal association between 731 immune-cell signatures and the susceptibility to COPD from a host genetics perspective. To validate the consistency of our findings, we utilized MR analysis results of lung function data to assess directional concordance. Furthermore, we employed MR-Egger intercept tests, Cochrane's Q test, MR-PRESSO global test, and "leave-one-out" sensitivity analyses to evaluate the presence of horizontal pleiotropy, heterogeneity, and stability, respectively. Inverse variance weighting results showed that seven immune phenotypes were associated with the risk of COPD. Analyses of heterogeneity and pleiotropy analysis confirmed the reliability of MR results. These results highlight the interactions between the immune system and the lungs. Further investigations into their mechanisms are necessary and will contribute to inform targeted prevention strategies for COPD.

Keywords: Chronic obstructive pulmonary disease; Mendelian randomization; immune cells; immunophenotypes.

[Proceed to details](#)

Cite

Share

3

J Occup Med Toxicol

•
•
•

. 2024 Apr 4;19(1):10.

doi: 10.1186/s12995-024-00409-6.

[Discriminative potential of exhaled breath condensate biomarkers with respect to chronic obstructive pulmonary disease](#)

[Romain Freund](#)¹, [Jean-Jacques Sauvain](#)², [Guillaume Suarez](#)², [Pascal Wild](#)², [Thomas Charreau](#)², [Amélie Debatisse](#)³, [Kirushanthi Sakthithasan](#)³, [Valérie Jouannique](#)³, [Jacques A Pralong](#)^{4 5 6}, [Irina Guseva Canu](#)²

Affiliations expand

- PMID: 38576000
- DOI: [10.1186/s12995-024-00409-6](https://doi.org/10.1186/s12995-024-00409-6)

Abstract

Background: Chronic obstructive pulmonary disease (COPD) affecting 334 million people in the world remains a major cause of morbidity and mortality. Proper diagnosis of COPD is still a challenge and largely solely based on spirometric criteria. We aimed to investigate the potential of nitrosative/oxidative stress and related metabolic biomarkers in exhaled breath condensate (EBC) to discriminate COPD patients.

Methods: Three hundred three participants were randomly selected from a 15,000-transit worker cohort within the Respiratory disease Occupational Biomonitoring Collaborative Project (ROBoCoP). COPD was defined using the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria as post-bronchodilator ratio of Forced Expiratory Volume in 1st second to Forced Vital Capacity < 0.7 in spirometry validated by an experienced

pulmonologist. Discriminative power of biomarker profiles in EBC was analyzed using linear discriminant analyses.

Results: Amongst 300 participants with validated spirometry, 50.3% were female, 52.3 years old in average, 36.0% were current smokers, 12.7% ex-smokers with mean tobacco exposure of 15.4 pack-years. Twenty-one participants (7.0%) were diagnosed as COPD, including 19 new diagnoses, 12 of which with a mild COPD stage (GOLD 1). Amongst 8 biomarkers measured in EBC, combination of 2 biomarkers, Lactate and Malondialdehyde (MDA) significantly discriminated COPD subjects from non-COPD, with a 71%-accuracy, area under the receiver curve of 0.78 (p-value < 0.001), and a negative predictive value of 96%.

Conclusions: These findings support the potential of biomarkers in EBC, in particular lactate and MDA, to discriminate COPD patients even at a mild or moderate stage. These EBC biomarkers present a non-invasive and drugless technique, which can improve COPD diagnosis in the future.

Keywords: Biomarker; COPD; Exhaled breath condensate; Oxidative stress; Respiratory.

© 2024. The Author(s).

- [55 references](#)

[Proceed to details](#)

Cite

Share

4

Tuberc Respir Dis (Seoul)

-
-
-

. 2024 Apr 4.

doi: 10.4046/trd.2024.0013. Online ahead of print.

[EFFECTS OF THE USE OF BETA-BLOCKERS ON CHRONIC OBSTRUCTIVE PULMONARY DISEASE \(COPD\)](#)

ASSOCIATED WITH CARDIOVASCULAR COMORBIDITIES: SYSTEMATIC REVIEW AND META-ANALYSIS

[Natasha Cordeiro Dos Santos¹](#), [Aquiles Assunção Camelier¹](#), [Anne Karine Menezes¹](#), [Victor Durier Cavalcanti de Almeida¹](#), [Roberto Rodrigues Bandeira Tosta Maciel¹](#), [Fernanda Warken Rosa Camelier¹](#)

Affiliations expand

- PMID: 38575301
- DOI: [10.4046/trd.2024.0013](https://doi.org/10.4046/trd.2024.0013)

Abstract

Introduction: Cardiovascular comorbidity is common in individuals with Chronic obstructive pulmonary disease (COPD). These factor interferes in pharmacological treatment. The use of beta-blockers has been proposed for their known cardioprotective effects. However, there is a reluctance to use them due to adverse reactions and the risk of causing bronchospasm.

Objective: To summarize existing evidences on the effects of beta-blocker use in COPD associated with cardiovascular comorbidities in relation to disease severity, exacerbation and mortality outcomes.

Material and methods: EMBASE, Medline, Lilacs, Cochrane Library and Science Direct databases were used. Study selection and data extraction, observational studies were included that evaluated the effects of beta-blockers in individuals with COPD and cardiovascular comorbidities, and related disease severity, exacerbations, or mortality to outcomes. Studies that did not present important information about the sample and pharmacological treatment were excluded. Twenty studies were included.

Results: Relevance to patient care and clinical practice: The use of beta-blockers in individuals with COPD and cardiovascular disease caused positive effects on mortality and exacerbations outcomes compared with the results of individuals who did not use them. The severity of the disease caused a slight change in FEV1. The OR for mortality was 0.50 (95 % CI: 0.39-0.63; p-value <0.00001) and for exacerbations 0.76 (95 % CI: 0.62-0.92; p - value = 0.005), being favorable to the group that used beta-blockers.

Conclusion: Further studies are needed to study the effect of using a specific beta-blocker in COPD associated with a specific cardiovascular comorbidity.

Keywords: Beta blockers; Cardiovascular diseases; Chronic obstructive pulmonary disease; Mortality; Systematic review.

[Proceed to details](#)

Cite

Share

5

Am J Respir Crit Care Med



. 2024 Apr 4.

doi: 10.1164/rccm.202401-0214VP. Online ahead of print.

[Why Home-NIV Should Begin in the Hospital, Not at Home](#)

[Spyridon Fortis](#)¹

Affiliations expand

- PMID: 38574196
- DOI: [10.1164/rccm.202401-0214VP](https://doi.org/10.1164/rccm.202401-0214VP)

No abstract available

Keywords: 9.6 COPD: Epidemiology; Hypercapnia; Non-invasive Ventilation; chronic hypercapnic respiratory failure.

[Proceed to details](#)

Cite

Share

6

Chronic Obstr Pulm Dis



. 2024 Apr 3.

doi: 10.15326/jcopdf.2023.0477. Online ahead of print.

COPD: Iron Deficiency and Clinical Characteristics in Patients With and Without Chronic Respiratory Failure

[Ingrid Marie Hardang](#)^{1,2}, [Vidar Søyseth](#)^{2,3}, [Natalia Kononova](#)^{2,4}, [Tor-Arne Hagve](#)^{1,2}, [Gunnar Einvik](#)^{2,3}

Affiliations expand

- PMID: 38575374
- DOI: [10.15326/jcopdf.2023.0477](https://doi.org/10.15326/jcopdf.2023.0477)

Abstract

Background: The prevalence of iron deficiency in patients with COPD varies in previous studies. We aimed to assess its prevalence according to three well-known criteria for iron deficiency, its associations with clinical characteristics of COPD and mortality.

Methods: In a cohort study consisting of 84 COPD patients, of which 21 had chronic respiratory failure, and 59 non-COPD controls, ferritin, TSat and mortality across 6.5 years were assessed. Associations between clinical characteristics and iron deficiency were examined by logistic regression, while associations with mortality were assessed in mixed effects Cox regression analyses.

Results: The prevalence of iron deficiency in the study population was 10-43% according to diagnostic criteria, and was consistently higher in COPD, peaking at 71% in participants with chronic respiratory failure. Ferritin < cutoff was significantly associated with FEV₁ (OR 0.33 per liter increase), smoking (OR 3.2) and cardiovascular disease (OR 4.7). TSat < 20% was associated with BMI (OR 1.1 per kg/m² increase) and hemoglobin (OR 0.65 per g/dL increase). The combined criterion of low ferritin and TSat was only associated with FEV₁ (OR

0.39 per liter increase). Mortality was not significantly associated with iron deficiency (HR 1.2-1.8) in adjusted analyses.

Conclusion: The prevalence of iron deficiency in the study population increased with increasing severity of COPD. Iron deficiency, defined by ferritin < cutoff, was associated with bronchial obstruction, current smoking and cardiovascular disease, while TSat < 20% was associated with reduced level of hemoglobin and increased BMI. Iron deficiency was not associated with increased mortality.

Keywords: COPD; anemia; chronic respiratory failure; ferritin; inflammation; iron deficiency; polycythemia; transferrin saturation.

JCOPDF © 2024.

SUPPLEMENTARY INFO

Grants and funding expand

[Proceed to details](#)

Cite

Share

7

BMC Geriatr



. 2024 Apr 3;24(1):312.

doi: 10.1186/s12877-024-04796-7.

[Profiling chronic diseases and hospitalizations in older home care recipients: a nationwide cohort study in Sweden](#)

[Katharina Schmidt-Mende](#)^{1,2}, [Cecilia Arvinge](#)³, [Giovanni Cioffi](#)⁴, [Lars Lennart Gustafsson](#)⁵, [Karin Modig](#)⁴, [Anna Carina Meyer](#)⁴

Affiliations expand

- PMID: 38570768

- DOI: [10.1186/s12877-024-04796-7](https://doi.org/10.1186/s12877-024-04796-7)

Abstract

Background: Older adults with home care (HC) often have complex disease patterns and use healthcare extensively. Increased understanding is necessary to tailor their care. To our knowledge, this is the first study to describe patterns of morbidity and hospitalizations among community-dwelling older HC recipients nationwide and in subgroups defined by age, sex, and amount of HC, and to compare patterns to community-dwelling older adults without HC.

Methods: Nationwide register-based cohort study in community-dwelling adults aged 70 and older receiving publicly funded HC in Sweden on January 1st 2019 and an age-and-sex matched comparison group ("non-HC recipients"). Using register data from inpatient and specialized outpatient care, we assessed the prevalence of sixty chronic diseases, frailty, multimorbidity and hospitalizations, calculated incidence rates and explored reasons for hospitalizations during two years of follow-up.

Results: We identified 138,113 HC recipients (mean age 85, 66% women, 57% ≥ 5 chronic diseases). The most prevalent diseases were hypertension (55%) and eye conditions (48%). Compared to non-HC recipients, HC recipients had a higher prevalence of almost all diseases, with an overrepresentation of neurological (26.1 vs. 9.5%) disease and dementia (9.3 vs. 1.5%). 61% of HC recipients were hospitalized at least once during two years, which was 1.6 times as often as non-HC recipients. One third of HC recipients' hospitalizations (37.4%) were due to injuries, infections, and heart failure. Hospitalizations for chronic obstructive pulmonary disease, confusion, infections, and breathing difficulties were 3-5 times higher among HC recipients compared to non-HC recipients.

Conclusion: Compared to non-HC recipients, HC recipients more often live alone, have higher degrees of frailty, suffer from more chronic diseases, especially neurological disease, and are hospitalized almost twice as often. The results provide a thorough description of HC recipients, which might be useful for targeted healthcare interventions including closer collaboration between primary care, neurologists, and rehabilitation.

Keywords: Aged; Home care; Hospitalization; Multimorbidity; Primary health care.

© 2024. The Author(s).

- [35 references](#)

[Proceed to details](#)

Cite

Share

8

Review

Respir Care



. 2024 Apr 3:respcare.11805.

doi: 10.4187/respcare.11805. Online ahead of print.

Home respiratory strategies in COPD patients with chronic hypercapnic respiratory failure: a systematic review and network meta-analysis

[Tyler Pitre](#)¹, [Saad Abbasi](#)², [George V Kachkovski](#)², [Levi Burns](#)², [Peter Huan](#)², [Jasmine Mah](#)³, [Claudia Crimi](#)⁴, [Andrea Cortegiani](#)^{5,6}, [Bram Rochweg](#)^{7,8}, [Dena Zeraatkar](#)^{9,10}

Affiliations expand

- PMID: 38569922
- DOI: [10.4187/respcare.11805](https://doi.org/10.4187/respcare.11805)

Abstract

Background: Home non-invasive positive pressure ventilation (NPPV) may improve chronic hypercapnia in COPD and patient important outcomes. The efficacy of home high flow nasal cannula (HFNC) as an alternative is unclear. **Methods:** We searched MEDLINE, EMBASE, Cochrane CENTRAL, SCOPUS, and Clinicaltrials.gov for randomized trials of patients from inception to March 31st and updated the search on July 14, 2023. We performed a frequentist network meta-analysis and assessed the certainty of the evidence using the GRADE approach. We analyzed randomized trials (RCTs) comparing NPPV, HFNC,

or standard care in adult COPD patients with chronic hypercapnic respiratory failure. Outcomes included mortality, COPD exacerbations, hospitalizations, and quality of life (SGRQ). **Results:** We analyzed twenty-four RCTs (1850 patients). We found that NPPV may reduce death risk compared to standard care (relative risk [RR] 0.82 [95% CI 0.66 to 1.00]) and probably reduces acute exacerbations (RR 0.71 [95% CI 0.58 to 0.87]). HFNC probably reduces acute exacerbations compared to standard care (RR 0.77 [0.68 to 0.88]) but its effect on mortality is uncertain (RR 1.20 [95% CI 0.63 to 2.28]). HFNC probably improves SGRQ scores (mean difference [MD] -7.01 [95% CI -12.27 to -1.77]) and may reduce hospitalizations (RR 0.87 [0.69 to 1.09]) compared to standard care. No significant difference was observed between HFNC and NPPV in reducing exacerbations. **Conclusion:** Both NPPV and HFNC reduce exacerbation risks in COPD patients compared to standard care. HFNC may offer advantages in improving quality of life.

Keywords: COPD; HFNC; NPPV; network meta-analysis.

Copyright © 2024 by Daedalus Enterprises.

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

PLoS One

-
-
-

. 2024 Apr 3;19(4):e0299693.

doi: 10.1371/journal.pone.0299693. eCollection 2024.

[High-Flow Nasal Cannula Oxygen Therapy versus Non-Invasive](#)

Ventilation in patients at very high risk for extubating failure: A systematic review of randomized controlled trials

Ziyad F Al Nufaiei^{1,2,3}, Raid M Al Zhranei^{1,2,3}

Affiliations expand

- PMID: 38568930
- PMCID: [PMC10990192](#)
- DOI: [10.1371/journal.pone.0299693](#)

Abstract

Background: Mechanical ventilation is commonly used for managing respiratory failure in chronic obstructive pulmonary disease (COPD) patients, but weaning patients off ventilator support can be challenging and associated with complications. While many patients respond well to Non-invasive ventilation (NIV), a significant proportion may not respond as favourably. We aimed to assess whether high-flow nasal cannula (HFNC) is equally effective as NIV in reducing extubation failure among previously intubated COPD patients.

Methods: This systematic review was carried out in line with PRISMA guidelines We searched PubMed, Scopus, Web of Science, and Cochrane library from inception until February 15, 2023. Randomized Clinical Trials (RCTs) of adults at high risk for extubating failure were included. We examined the use of HFNC as the intervention and NIV as the comparator. Our outcome of interest included, reintubation rate, length of hospital or intensive care unit (ICU) stay, adverse events, and time to reintubation. The Cochrane risk-of-bias tool was used for randomized trials to assess risk of bias.

Results: We identified 348 citations, 11 of which were included, representing 2,666 patients. The trials indicate that HFNC is comparable to NIV in preventing reintubation after extubating in COPD patients. In comparison to NIV, HFNC also produced improved tolerance, comfort, and less complications such as airway care interventions. NIV with active humidification may be more effective than HFNC in avoiding reintubation in patients who are at extremely high risk for extubating failure.

Conclusion: The inconclusive nature of emerging evidence highlights the need for additional studies to establish the efficacy and suitability of HFNC as an alternative to NIV for previously intubated COPD patients. Clinicians should consider the available options and individualize their approach based on patient characteristics. Future research should focus on addressing these gaps in knowledge to guide clinical decision-making and optimize outcomes for this patient population.

Copyright: © 2024 Al Nufaiei, Al Zhranei. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Conflict of interest statement

The authors have declared that no competing interests exist.

- [42 references](#)

SUPPLEMENTARY INFO

Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

Ann Am Thorac Soc

-
-
-

. 2024 Apr 3.

doi: 10.1513/AnnalsATS.202308-741OC. Online ahead of print.

Air Pollution Exposure and Interstitial Lung Features in SPIROMICS Participants with COPD

[Nicolas A Baddour](#)¹, [Laura M Paulin](#)², [Amanda J Gassett](#)³, [Han Woo](#)⁴, [Eric A Hoffman](#)⁵, [John D Newell Jr](#)^{6,5}, [Prescott G Woodruff](#)⁷, [Cheryl S Pirozzi](#)⁸, [Igor Barjaktarevic](#)⁹, [R Graham Barr](#)¹⁰, [Wanda O'Neal](#)¹¹, [MeiLan K Han](#)¹², [Fernando J Martinez](#)¹³, [Stephen P Peters](#)¹⁴, [Annette T Hastie](#)¹⁵, [Nadia N Hansel](#)¹⁶, [Victor E Ortega](#)¹⁷, [Joel D Kaufman](#)^{3,18}, [Coralynn S Sack](#)^{3,19}

Affiliations expand

- PMID: 38568439
- DOI: [10.1513/AnnalsATS.202308-741OC](https://doi.org/10.1513/AnnalsATS.202308-741OC)

Abstract

Rationale: It is unknown whether air pollution is associated with radiographic features of interstitial lung disease in individuals with chronic obstructive pulmonary disease (COPD).

Objectives: To determine whether air pollution increases prevalence of interstitial lung abnormalities (ILA) or percent high-attenuation area (HAA) on computed tomography (CT) in individuals with a heavy smoking history and COPD.

Methods: We performed a cross-sectional study of SPIROMICS (Subpopulations and Intermediate Outcome Measures in COPD Study), focused on current or former smokers with COPD. 10-year exposure to particulate matter < 2.5 μm (PM_{2.5}), nitrogen oxides (NO_x), nitrogen dioxide (NO₂), and ozone (O₃) prior to enrollment CTs (completed between 2010-2015) were estimated with validated spatiotemporal models at residential addresses. We applied adjusted multivariable modified Poisson regression and linear regression to investigate associations between pollution exposure and relative risk of ILA or increased percent HAA (between -600 and -250 Hounsfield units) respectively. We assessed for effect modification by MUC5B-promoter polymorphism (GT/TT vs GG at rs3705950), smoking status, sex, and percent emphysema.

Results: Among 1272 participants with COPD assessed for HAA, 424 were current smokers, 249 were carriers of the variant MUC5B allele (GT/TT). 519 participants were assessed for ILA. We found no association between pollution exposure and ILA or HAA. Associations between pollutant exposures and risk of ILA were modified by the presence of MUC5B polymorphism (p-value interaction term for NO_x = 0.04 and PM_{2.5} = 0.05) and smoking status (p-value interaction term for NO_x = 0.05, NO₂ = 0.01, and O₃ = 0.05). With higher

exposure to NO_x and PM_{2.5}, MUC5B variant carriers had increased risk of ILA (Relative Risk [RR] per 26ppb NO_x 2.41; 95% Confidence Interval [CI] 0.97 to 6.0) and RR per 4 µg·m⁻³ PM_{2.5} 1.43; 95% CI 0.93 to 2.2). With higher exposure to NO₂, former smokers had increased risk of ILA (RR per 10ppb 1.64; 95% CI 1.0 to 2.7).

Conclusions: Exposure to ambient air pollution was not associated with interstitial features on CT in this population of heavy smokers with COPD. MUC5B modified the association between pollution and ILA, suggesting that gene-environment interactions may influence prevalence of interstitial lung features in COPD.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Respir Care

-
-
-

. 2024 Apr 2:respcare.11396.

doi: 10.4187/respcare.11396. Online ahead of print.

[Direct Health Care Costs Associated With a Multicomponent COPD Exacerbation Intervention](#)

[Louise Rose](#)¹, [Laura Istanboulian](#)², [Shaghayegh Rezaie](#)³, [Ian Fraser](#)⁴

Affiliations expand

- PMID: 38565305
- DOI: [10.4187/respcare.11396](https://doi.org/10.4187/respcare.11396)

Abstract

Background: Health care costs attributed to COPD have been estimated at \$4.7 trillion globally in the next 30 years. With the global burden of COPD rising, identification of interventions that might lead to health care cost savings is an imperative. Although many studies report the effect of COPD self-management interventions on subject outcomes and health care utilization, few data describe their effect on health care costs.

Methods: Using data linkage and established case-costing methods with provincial Canadian health databases, we established public health care costs (acute and community) for 12 months following randomization for the 462 participants enrolled in our randomized controlled trial of the Program of Integrated Care for Patients with COPD and Multiple Comorbidities.

Results: Total median (interquartile range) in-hospital costs in the 12 months follow-up for all (intervention and control) 462 trial participants were CAD \$4,769 (\$417-16,834) (equivalent to US \$3,566 [\$312-12,588]). Total costs incurred in the community were higher at CAD \$8,011 (\$4,749-13,831) (equivalent to US \$5,990 [\$3,551-10,342]). Controlling for sex, income quintile, Johns Hopkins Aggregated Diagnosis Groups score, and living in an urban locality, we found lower community health care costs but no differences in acute care costs for participants receiving our multicomponent COPD exacerbation prevention management intervention compared to usual care.

Conclusions: Controlling for important confounders, we found lower public community health care costs but no difference in acute health care costs with our multicomponent COPD exacerbation prevention management intervention compared to usual care. Community health care costs were almost double those incurred compared to acute health care costs. Given this finding, although most COPD exacerbation management interventions generally focus on reducing the use of acute care, interventions that enable health care cost savings in the community require further exploration.

Keywords: COPD; data linkage; health administrative databases; health care costs; self-management.

Copyright © 2024 by Daedalus Enterprises.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

12

Am J Respir Crit Care Med

-
-
-

. 2024 Apr 2.

doi: 10.1164/rccm.202403-0565ED. Online ahead of print.

The Evolving Contours of COPD

[Nicolas Roche](#)^{1,2}, [MeiLan K Han](#)³

Affiliations expand

- PMID: 38564415
- DOI: [10.1164/rccm.202403-0565ED](https://doi.org/10.1164/rccm.202403-0565ED)

No abstract available

Keywords: COPD; definition; early COPD; pre-COPD.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

13

Observational Study

J Am Heart Assoc

-
-

. 2024 Apr 2;13(7):e032785.

doi: 10.1161/JAHA.123.032785. Epub 2024 Mar 27.

Risk of Death and Cardiovascular Events in Asian Patients With Atrial Fibrillation and Chronic Obstructive Pulmonary Disease: A Report From the Prospective APHRS Registry

[Tommaso Bucci](#)^{1,2}, [Giulio Francesco Romiti](#)^{1,3}, [Alena Shantsila](#)¹, [Wee-Siong Teo](#)⁴, [Hyung-Wook Park](#)⁵, [Wataru Shimizu](#)⁶, [Bernadette Corica](#)^{1,3}, [Marco Proietti](#)^{7,8}, [Hung-Fat Tse](#)⁹, [Tze-Fan Chao](#)^{10,11}, [Frederick Frost](#)¹, [Gregory Y H Lip](#)^{1,12}; [Asia-Pacific Heart Rhythm Society Atrial Fibrillation Registry Investigators](#)

Collaborators, Affiliations expand

- PMID: 38533983
- DOI: [10.1161/JAHA.123.032785](https://doi.org/10.1161/JAHA.123.032785)

Free article

Abstract

Background: Chronic obstructive pulmonary disease (COPD) is associated with an increased risk of adverse events in patients with atrial fibrillation (AF); however, few data are available on this topic in Asian populations.

Methods and results: Prospective observational study conducted on patients with AF enrolled in the Asia-Pacific Heart Rhythm Society (APHRS) AF Registry. The diagnosis of COPD was based on data reported in the case report form by the investigators. Cox-regression models were used to assess the 1-year risk of a primary composite outcome of all-cause death, thromboembolic events, acute coronary syndrome, and heart failure. Analysis on single outcomes and cardiovascular death was also performed. Interaction analysis was used to assess the risk of composite outcome and all-cause death in different subgroups. The study included 4094 patients with AF (mean±SD age 68.5±12 years, 34.6% female), of whom 112 (2.7%) had COPD. Patients with COPD showed a higher incidence of the primary composite outcome (25.1% versus 6.3%, $P<0.001$), all-cause death (14.9%

versus 2.6%, $P < 0.001$), cardiovascular death (2.0% versus 0.6%, $P < 0.001$), and heart failure (8.3% versus 6.0%, $P < 0.001$). On multiple Cox-regression analysis, COPD was associated with a higher risk of the primary composite outcome (hazard ratio [HR], 3.17 [95% CI, 2.05-4.90]), all-cause death (HR, 3.59 [95% CI, 2.04-6.30]), and heart failure (HR, 3.32 [95% CI, 1.56-7.03]); no statistically significant differences were found for other outcomes. The association between COPD and mortality was significantly modified by the use of beta blockers ($P_{\text{int}} = 0.018$).

Conclusions: In Asian patients with AF, COPD is associated with worse prognosis. In patients with AF and COPD, the use of beta blockers was associated with a lower mortality.

Registration information: clinicaltrials.gov Identifier: [NCT04807049](https://clinicaltrials.gov/ct2/show/study/NCT04807049).

Keywords: COPD; all-cause death; atrial fibrillation; beta blockers; heart failure.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Associated dataexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

14

JAMA



. 2024 Apr 2;331(13):1082.

doi: 10.1001/jama.2024.4447.

[Stem Cell Transplants Might Boost Lung Function in People With COPD](#)

[Samantha Anderer](#)

- PMID: 38477932
- DOI: [10.1001/jama.2024.4447](https://doi.org/10.1001/jama.2024.4447)

No abstract available

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

15

Respir Med



. 2024 Apr 1:107625.

doi: 10.1016/j.rmed.2024.107625. Online ahead of print.

[Association of inadequate social support and clinical outcomes in patients with chronic obstructive pulmonary disease – A cross-sectional study](#)

[Anna L Stoustrup](#)¹, [Daisy J A Janssen](#)², [Nienke Nakken](#)³, [Emiel F M Wouters](#)⁴, [Alda Marques](#)⁵, [Ulla Møller Weinreich](#)⁶, [Martijn A Spruit](#)⁷

Affiliations expand

- PMID: 38570144

- DOI: [10.1016/j.rmed.2024.107625](https://doi.org/10.1016/j.rmed.2024.107625)

Abstract

Introduction: In patients with chronic obstructive pulmonary disease (COPD), loneliness and social isolation are associated with increased morbidity and decreased mobility, self-reliance, and health-related quality of life. Social support has been shown to improve these outcomes.

Aims: This cross-sectional study aimed to investigate the level of experienced social support and the clinical outcomes associated with inadequate social support among patients with COPD with a resident loved one.

Methods: Level of social support was assessed with the Medical Outcomes Study - Social Support Survey (MOS-SSS) in patients with COPD with a resident loved one. Patients were sub-grouped into adequate or inadequate social support. Multiple clinical outcomes were assessed, including lung function, degree of dyspnoea, health status, symptoms of anxiety and depression, the degree of care dependency, functional status, and mobility.

Results: The study included 191 Dutch patients with COPD (53.4% men, age: 65.6 ± 8.9 years, FEV₁: $47.3 \pm 17.7\%$ predicted). Eighteen percent of the patients reported inadequate social support. Patients with inadequate social support reported a significantly symptom severity of COPD ($p = 0.004$), a higher care dependency level ($p = 0.04$) and a higher level of depression ($p = 0.004$) compared to patients with adequate social support. Other traits were comparable for both groups.

Conclusion: Patients with COPD with a resident loved one who perceive an inadequate level of social support are more likely to report a higher impact of COPD, a higher care dependency and symptoms of depression. Other characteristics are comparable with patients who perceive adequate social support.

Keywords: COPD; Care dependency; Depression; Social support.

Copyright © 2024. Published by Elsevier Ltd.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

[Proceed to details](#)

Cite

Share

16

Chronic Obstr Pulm Dis

-
-
-

. 2024 Apr 1.

doi: 10.15326/jcopdf.2024.0496. Online ahead of print.

[From Invisibility to Inclusion: A Call to Action to Address COPD Disparities in the Lesbian, Gay, Bisexual, Transgender, and Queer+ Community](#)

[Ninand T Maniar](#)^{1,2}, [M Bradley Drummond](#)³

Affiliations expand

- PMID: 38563736
- DOI: [10.15326/jcopdf.2024.0496](https://doi.org/10.15326/jcopdf.2024.0496)

Free article

Abstract

COPD is a significant cause of morbidity and mortality both in the US and worldwide. LGBTQ+ individuals (lesbian, gay, bisexual, transgender, or queer with the plus sign indicating inclusion of people who are questioning, intersex, asexual, or who hold other gender/sex/romantic identities not specifically identified) have a higher rate of tobacco smoking, predisposing them to an increased risk of developing COPD. Despite this risk, the burden of COPD in LGBTQ+ individuals is not known. Moreover, there is limited focus on efforts to identify and reduce disease risk in this population. In this perspective, we present the results of a focused literature review of COPD in LGBTQ+ populations. We found only 8 studies that reported the prevalence of COPD in different sub-groups of the LGBTQ+

population. All studies found an increased prevalence of COPD in the studied LGBTQ+ sub-groups compared to their heterosexual and/or cisgender counterparts. We propose a three-pronged call to action to improve the care of LGBTQ+ people with COPD. First, we must improve awareness and education about COPD in the LGBTQ+ community through the effective development and dissemination of educational resources to LGBTQ+ people and their healthcare providers. Second, we call for prevention and intervention efforts through targeted tobacco cessation initiatives and case-finding via screening spirometry among symptomatic LGBTQ+ smokers. Finally, well-designed cohort studies are required to better characterize COPD burden among LGBTQ+ populations. With targeted approaches in these three areas, we can improve the health of this vulnerable population, historically marginalized from current COPD research efforts.

Keywords: chronic obstructive; health equity; pulmonary disease; sexual and gender minorities.

JCOPDF © 2024.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

17

[Published Erratum](#)

Respir Res

-
-
-

. 2024 Apr 1;25(1):152.

doi: 10.1186/s12931-024-02745-x.

[Correction: Benefit of prompt initiation of single-inhaler fluticasone furoate,](#)

umeclidinium, and vilanterol (FF/UMEC/VI) in patients with COPD in England following an exacerbation: a retrospective cohort study

[Afisi S Ismaila](#)^{1,2}, [Kieran J Rothnie](#)³, [Robert P Wood](#)⁴, [Victoria L Banks](#)^{#4,5}, [Lucinda J Camidge](#)⁴, [Alexandrosz Czira](#)³, [Chris Compton](#)⁶, [Raj Sharma](#)⁶, [Shannon N Millard](#)^{#4,7}, [Olivia Massey](#)⁴, [David M G Halpin](#)⁸

Affiliations expand

- PMID: 38561735
- PMCID: [PMC10983733](#)
- DOI: [10.1186/s12931-024-02745-x](#)

No abstract available

Erratum for

- [Benefit of prompt initiation of single-inhale fluticasone furoate, umeclidinium, and vilanterol \(FF/UMEC/VI\) in patients with COPD in England following an exacerbation: a retrospective cohort study.](#)
Ismaila AS, Rothnie KJ, Wood RP, Banks VL, Camidge LJ, Czira A, Compton C, Sharma R, Millard SN, Massey O, Halpin DMG. *Respir Res.* 2023 Sep 25;24(1):229. doi: 10.1186/s12931-023-02523-1. PMID: 37749551 **Free PMC article.**
- [1 reference](#)

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS

Read free
full text at  BMC

[Proceed to details](#)

Cite

Share

18

Review

J Adv Nurs



. 2024 Apr 1.

doi: 10.1111/jan.16168. Online ahead of print.

Home-based management on hospital re-admission rates in COPD patients: A systematic review

[Rita Corcoran](#)¹, [Zena Moore](#)², [Pinar Avsar](#)², [Bridget Murray](#)²

Affiliations expand

- PMID: 38558439
- DOI: [10.1111/jan.16168](https://doi.org/10.1111/jan.16168)

Abstract

Aim: To determine the impact of home-based management on hospital re-admission rates in patients with chronic obstructive pulmonary disease (COPD).

Design: Systematic review methodology was utilized, combining meta-analysis, where appropriate, or a narrative analysis of the data from included studies.

Data sources: Electronic databases CINAHL, MEDLINE, PubMed, Embase and SAGE journals for primary papers, 2015 to 2021, were searched between December 2020 and March 2021, followed by hand-searching key journals, and reference lists of retrieved papers.

Methods: The review followed the guidance of PRISMA. Data were extracted using a predesigned data extraction tool. Quality appraisal was undertaken using RevMan 'risk of bias' tool. Meta-analysis was undertaken using RevMan software.

Results: This review integrates evidence from eight studies, five Random Control Trials, two observational studies and one retrospective study. The studies span three continents, Asia, Europe and North America, and include 3604 participants with COPD. Home-based management in patients with COPD resulted in a statistically significant reduction in rates of hospital readmission. For the outcomes, length of stay and mortality, while slightly in favour of home-based management, the results were not statistically significant.

Conclusion: Given the burden of COPD on healthcare systems, and crucially on individuals, this review identified a reduction in hospital re-admission rate, a clinically important outcome.

Impact: This study focused on the impact on hospital re-admission rates among the COPD patient cohort when home-based management was involved. A statistically significant reduction in rates of re-admission to the hospital was identified. This is positive for the patient, in terms of hospital avoidance, and reduces the burden on hospital systems. Further research is needed to determine the impact on cost-effectiveness and to quantify the most ideal type of care package that would be recommended for home-based management.

Keywords: chronic obstructive pulmonary disease; home management care; re-admission; re-hospitalization; telehealth; telemedicine; virtual ward.

© 2024 The Authors. Journal of Advanced Nursing published by John Wiley & Sons Ltd.

- [21 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

Ann Am Thorac Soc



. 2024 Apr;21(4):541-542.

doi: 10.1513/AnnalsATS.202401-010ED.

The Exacerbation, Not the Patient, Determines Chronic Obstructive Pulmonary Disease Exacerbation Care Seeking

[Alice L Crawford](#)^{1,2}, [John D Blakey](#)^{1,2}, [Sanjay Ramakrishnan](#)^{1,2}

Affiliations expand

- PMID: 38557421
- DOI: [10.1513/AnnalsATS.202401-010ED](https://doi.org/10.1513/AnnalsATS.202401-010ED)

No abstract available

Comment on

- [Cognitive and Emotional Responses to Chronic Obstructive Pulmonary Disease Exacerbations and Patterns of Care Seeking.](#)

Locke ER, Thomas RM, Simpson TL, Fortney JC, Battaglia C, Trivedi RB, Gyls-Colwell J, Swenson ER, Edelman JD, Fan VS. Ann Am Thorac Soc. 2024 Apr;21(4):559-567. doi: 10.1513/AnnalsATS.202303-287OC. PMID: 37966313

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

20

Review

Biomed Pharmacother

-
-
-

. 2024 Apr;173:116463.

doi: 10.1016/j.biopha.2024.116463. Epub 2024 Mar 18.

Cellular senescence in chronic lung diseases from newborns to the elderly: An update literature review

[Ziyun Liu](#)¹, [Yiqi Zhang](#)², [Danni Li](#)³, [Jianhua Fu](#)⁴

Affiliations expand

- PMID: 38503240
- DOI: [10.1016/j.biopha.2024.116463](https://doi.org/10.1016/j.biopha.2024.116463)

Free article

Abstract

The role of cellular senescence in age-related diseases has been fully recognized. In various age-related-chronic lung diseases, the function of alveolar epithelial cells (AECs) is impaired and alveolar regeneration disorders, especially in bronchopulmonary dysplasia, pulmonary fibrosis (PF), chronic obstructive pulmonary disease (COPD), cancer, etc. Except

for age-related-chronic lung diseases, an increasing number of studies are exploring the role of cellular senescence in developmental chronic lung diseases, which typically originate in childhood and even in the neonatal period. This review provides an overview of cellular senescence and lung diseases from newborns to the elderly, attempting to draw attention to the relationship between cellular senescence and developmental lung diseases.

Keywords: Age-related-chronic lung diseases; Bronchopulmonary dysplasia; Cellular senescence; Developmental lung diseases; Senotherapeutics.

Copyright © 2024 The Authors. Published by Elsevier Masson SAS.. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest There are none.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

21

Editorial

Open Respir Arch

-
-
-

. 2024 Feb 15;6(2):100306.

doi: 10.1016/j.opresp.2024.100306. eCollection 2024 Apr-Jun.

Biologics in COPD

[Ana L Kersul](#)¹, [Borja G Cosio](#)²

Affiliations expand

- PMID: 38486675
- PMCID: [PMC10937225](#)
- DOI: [10.1016/j.opresp.2024.100306](#)

No abstract available

- [15 references](#)

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

22

Open Respir Arch

-
-
-

. 2024 Feb 8;6(2):100302.

doi: 10.1016/j.opresp.2024.100302. eCollection 2024 Apr-Jun.

[Delphi Consensus of Argentine Pulmonologists on the Management of Patients with COPD in Real Life]

[Article in Spanish]

[Miguel Penizzotto](#)¹, [Ana López](#)², [Carlos S Wustten](#)³, [Vanessa Abratte](#)², [Sergio Arias](#)⁴

Affiliations expand

- PMID: 38444983
- PMCID: [PMC10912902](#)
- DOI: [10.1016/j.opresp.2024.100302](#)

Abstract

in [English](#), [Spanish](#)

Introduction: COPD is the third cause of death globally and in Argentina COPD has a prevalence of 14.5%, but the management of patients in real life is unknown. The objectives of this work were: a) To know the opinions of pulmonologists in Argentina who manage patients with COPD in different aspects of daily practice. b) Compare our findings with specialists from Spain and c) Consider our results to plan future directives in the management of COPD in our country.

Material and methods: 89 pulmonologists from Argentina, experts in COPD, participated in a Delphi consensus, who responded to a survey with five domains. a) Adherence to treatment, b) Control of COPD, c) Treatable features, d) Inhalation devices and e) Accessibility to therapeutic resources.

Results: After two rounds of questions, total consensus was achieved in 77.6% of the statements and discriminating by domain: Treatment adherence: 5/9 (55.5%). COPD control: 10/14 (71.4%). Treatable traits: 6/6 (100%). Inhalation devices: 10/14 (71.4%) and Accessibility to treatment: 6/6 (100%). In most of the affirmations, the results were similar to those obtained by Spanish pulmonologists.

Conclusions: Pulmonologists from Argentina manage COPD patients in a similar way and with minimal differences with our Spanish colleagues. It became evident that, in daily

practice, there are factors that negatively impact access to the indicated treatments. Our work could serve as a starting point to improve this situation.

Keywords: Chronic obstructive pulmonary disease; Consensus; Pulmonologists; Real life.

© 2024 Sociedad Española de Neumología y Cirugía Torácica (SEPAR). Published by Elsevier España, S.L.U.

- [22 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

23

Review

Physiother Res Int

-
-
-

. 2024 Apr;29(2):e2076.

doi: 10.1002/pri.2076.

[Effectiveness of neuromuscular electrical stimulation in patients with acute exacerbation of chronic](#)

obstructive pulmonary disease: A systematic review and meta-analysis

[Kazuki Okura](#)¹, [Tadayoshi Nonoyama](#)², [Manaka Shibuya](#)³, [Shuhei Yamamoto](#)⁴, [Shohei Kawachi](#)⁵, [Kenichi Nishie](#)⁶, [Katsutoshi Nakayama](#)⁷

Affiliations expand

- PMID: 38411350
- DOI: [10.1002/pri.2076](https://doi.org/10.1002/pri.2076)

Abstract

Background and purpose: This study aimed to investigate the effectiveness and acceptability of neuromuscular electrical stimulation (NMES) in patients with acute exacerbation of chronic obstructive pulmonary disease (COPD).

Methods: We conducted a systematic review and meta-analysis to investigate the effectiveness and accessibility of NMES and compared them with usual care in patients with acute exacerbation of COPD by searching databases such as MEDLINE, EMBASE, and the Cochrane Central Register of Controlled Trials published up to April 2022. Randomized controlled trials (RCTs) involving patients with COPD who were treated within 3 weeks of acute exacerbation onset were included. The risk of bias was assessed using the RoB 2 tools. We pooled limb muscle strength and adverse events and performed a comparison between NMES and usual care. The quality of evidence was assessed using the Grading of Recommendations, Assessment, Development, and Evaluation approach.

Results: Five RCTs, including 168 patients, met the eligibility criteria. The meta-analysis showed that limb muscle strength was significantly higher in the NMES group (four studies with 148 patients; standardized mean difference, 0.95; 95% confidence interval, 0.60-1.30; $p < 0.001$). The quality of evidence was very low due to the risk of bias within the studies, imprecision of the estimates, and small number of studies. Any adverse events served as outcomes in three studies (86 patients), although no adverse events occurred.

Conclusion: NMES is safe for patients with acute exacerbation of COPD and may maintain and improve limb muscle strength; however, the quality of evidence was very low.

Keywords: acute exacerbation; chronic obstructive pulmonary disease; meta-analysis; neuromuscular electrical stimulation; pulmonary rehabilitation; systematic review.

© 2024 The Authors. Physiotherapy Research International published by John Wiley & Sons Ltd.

- [31 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

24

Respirology

-
-
-

. 2024 Apr;29(4):340-343.

doi: 10.1111/resp.14688. Epub 2024 Feb 25.

[Oxygen therapy could improve survival in patients with early desaturation in the 6-minute walk test: A post hoc analysis](#)

[Ignacio García-Talavera¹](#), [Juan Marco Figueira-Gonçalves^{1,2}](#), [Cristobal Esteban^{3,4,5,6}](#), [Rafael Golpe⁷](#), [Silvia García-Talavera⁸](#), [Carlos Amado⁹](#), [Amaia Aramburu^{3,4,5,6}](#), [Lina I Pérez-Méndez^{10,11}](#), [Alicia Conde-Martel⁸](#)

Affiliations expand

- PMID: 38404119

- DOI: [10.1111/resp.14688](https://doi.org/10.1111/resp.14688)

No abstract available

- [10 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

25

Practice Guideline

Arch Bronconeumol

-
-
-

. 2024 Apr;60(4):226-237.

doi: 10.1016/j.arbres.2024.01.013. Epub 2024 Feb 1.

[Multidisciplinary Management of Patients With Chronic Obstructive Pulmonary Disease and Cardiovascular Disease](#)

[Article in English, Spanish]

[Javier de Miguel-Díez](#)¹, [Julio Núñez Villota](#)², [Salud Santos Pérez](#)³, [Nicolás Manito Lorite](#)⁴, [Bernardino Alcázar Navarrete](#)⁵, [Juan Francisco Delgado Jiménez](#)⁶, [Juan José Soler-Cataluña](#)⁷, [Domingo Pascual Figal](#)⁸, [Patricia Sobradillo Ecenarro](#)⁹, [Juan José Gómez Doblas](#)¹⁰

Affiliations expand

- PMID: 38383272
- DOI: [10.1016/j.arbres.2024.01.013](https://doi.org/10.1016/j.arbres.2024.01.013)

Free article

Abstract

Chronic obstructive pulmonary disease (COPD) and cardiovascular disease (CVD) frequently coexist, increasing the prevalence of both entities and impacting on symptoms and prognosis. CVD should be suspected in patients with COPD who have high/very high risk scores on validated scales, frequent exacerbations, precordial pain, disproportionate dyspnea, or palpitations. They should be referred to cardiology if they have palpitations of unknown cause or angina pain. COPD should be suspected in patients with CVD if they have recurrent bronchitis, cough and expectoration, or disproportionate dyspnea. They should be referred to a pulmonologist if they have rhonchi or wheezing, air trapping, emphysema, or signs of chronic bronchitis. Treatment of COPD in cardiovascular patients should include long-acting muscarinic receptor antagonists (LAMA) or long-acting beta-agonists (LABA) in low-risk or high-risk non-exacerbators, and LAMA/LABA/inhaled corticosteroids in exacerbators who are not controlled with bronchodilators. Cardioselective beta-blockers should be favored in patients with CVD, the long-term need for amiodarone should be assessed, and antiplatelet drugs should be maintained if indicated.

Keywords: Cardiopulmonary risk; Cardiovascular disease; Chronic obstructive pulmonary disease; Comorbidities; Exacerbations.

Copyright © 2024 The Authors. Published by Elsevier España, S.L.U. All rights reserved.

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS

FULL TEXT AT
Archivos de Bronconeumología



[Proceed to details](#)

Cite

Share

26

Randomized Controlled Trial

Respir Med

-
-
-

. 2024 Apr;224:107558.

doi: 10.1016/j.rmed.2024.107558. Epub 2024 Feb 17.

Treatable traits in advanced emphysema patients eligible for bronchoscopic lung volume reduction with endobronchial valves

[Rein Posthuma](#)¹, [Marieke C van der Molen](#)², [Jorine E Hartman](#)², [Martijn A Spruit](#)³, [Dirk-Jan Slebos](#)², [Lowie E G W Vanfleteren](#)⁴, [Anouk W Vaes](#)⁵

Affiliations expand

- PMID: 38373596
- DOI: [10.1016/j.rmed.2024.107558](https://doi.org/10.1016/j.rmed.2024.107558)

Free article

Abstract

Introduction: Patients with advanced emphysema eligible for bronchoscopic lung volume reduction (BLVR) using endobronchial valves (EBV) are characterized by severe static lung hyperinflation, which can be considered a treatable trait. Other treatable traits (TTs), which are assumed to be present in this highly selected patient group, have not been studied in detail nor how they may affect health-related quality of life (HRQL).

Aims: We aimed to evaluate a spectrum of TTs in COPD patients eligible for EBV treatment and their association with HRQL.

Methods: The SoLVE study ([NCT03474471](#)) was a prospective multicenter randomized controlled trial to examine the impact of pulmonary rehabilitation in COPD patients receiving EBV. The presence/absence of 16 TTs was based on pre-defined thresholds. HRQL was assessed with the St. George's Respiratory Questionnaire (SGRQ). Subjects were stratified into two groups, using the median split method, into higher or lower SGRQ total score. Logistic regression assessed the odds ratio (OR) of having a higher SGRQ total score per TT.

Results: Ninety-seven subjects were included, the mean number of TTs per patient was 8.1 ± 2.5 . Low physical activity (95%), poor exercise capacity (94%) and severe fatigue (75%) were the most prevalent TTs. The sum of TTs present in a subject was associated with the SGRQ total score ($r = 0.53$; $p < 0.001$). Severe fatigue, depression, and anxiety were predictors of having a higher SGRQ total score.

Conclusions: A high prevalence and co-occurrence of multiple TTs were identified in emphysema patients eligible for EBV. Patients with a higher number of TTs were more likely to have worse HRQL.

Keywords: Bronchoscopic interventions; COPD; Emphysema; Health-related quality of life; Treatable traits.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest There is no conflict of interest.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

27

Multicenter Study



Efficacy and safety of the Spiration Valve System™ for the treatment of severe emphysema in patients with Alpha-1 antitrypsin deficiency (EMPROVE)

[Douglas K Hogarth](#)¹, [Antoine Delage](#)², [Michael A Zgoda](#)³, [Stephanie Nsiah-Dosu](#)⁴, [David Himes](#)⁵, [Michael F Reed](#)⁶

Affiliations expand

- PMID: 38364975
- DOI: [10.1016/j.rmed.2024.107565](https://doi.org/10.1016/j.rmed.2024.107565)

Free article

Abstract

Objectives: Alpha-1 antitrypsin deficiency (AATD) is a hereditary condition associated with emphysema. This study analyzed the efficacy and safety of Spiration Valve System™ (SVS) among AATD patients with severe emphysema.

Methods: This multicenter prospective study included 20 patients demonstrating AATD as assessed by quantitative levels of AAT and genotype containing two ZZ alleles. Most diseased lobe based on high resolution computed tomography was selected for treatment with endobronchial SVS. The change from baseline in forced expiratory volume in 1 s (FEV₁) at 6 months (Primary outcome) and at 12 months, quality-of-life (QoL) measured by St. George's Respiratory Questionnaire (SGRQ) as health status, dyspnea scale measured by mMRC, Chronic obstructive pulmonary disease (COPD) Assessment Test (CAT), 36-item Short Form Health Survey (SF-36) physical component summary (PCS) and safety were assessed.

Results: Lung function (FEV₁) significantly improved at 6 months (P = 0.02); but did not reach statistical significance at 12 months (P = 0.22). Significant improvement was observed in dyspnea (at all time points), QoL measures (3, 6, and 12 months), CAT score and PCS of SF-36 (1, 3 and 6 months). Response rates based on minimal clinically important difference reached 50-80% for all variables. Overall, 4.4 valves/patient were used to isolate the target lobe, with a mean procedure time of 20.3 min. Serious adverse events included COPD exacerbations (5%), pneumonia (10%), pneumothorax (15%) and death (5%), occurring within first three months.

Conclusion: SVS endobronchial valve treatment showed improvement in lung function, dyspnea, and QoL in AATD patients with severe emphysema.

Keywords: Alpha-1 antitrypsin deficiency; Bronchoscopic lung volume reduction; Emphysema; Lung volume reduction surgery; Spiration valve system.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Dr. Hogarth is a consultant for Olympus/Spiration. Dr. Hogarth is a consultant for PulmonX and teaches courses for PulmonX. Dr. Hogarth is a consultant for Takeda (maker of AAT replacement product) and is on the MASEK committee for the Alpha One Foundation. He is a consultant for Wave Lifesciences.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

28

Respir Med

-
-

. 2024 Apr;224:107557.

doi: 10.1016/j.rmed.2024.107557. Epub 2024 Feb 13.

Predicting exacerbations in COPD in the Danish general population

[Jacob Louis Marott](#)¹, [Truls Sylvan Ingebrigtsen](#)², [Yunus Çolak](#)³, [Jørgen Vestbo](#)⁴, [Børge Grønne Nordestgaard](#)⁵, [Peter Lange](#)⁶

Affiliations expand

- PMID: 38355020
- DOI: [10.1016/j.rmed.2024.107557](https://doi.org/10.1016/j.rmed.2024.107557)

Abstract

Background: Risk of exacerbations in individuals with mild chronic obstructive pulmonary disease (COPD) in the general population is less well described than in more advanced disease. We hypothesized that in addition to history of previous exacerbation also other clinical characteristics predict future moderate exacerbations.

Methods: In 96,462 individuals in the Copenhagen General Population Study, we identified 3175 with clinical COPD defined as forced expiratory volume in 1 s (FEV₁)/forced vital capacity (FVC) < 0.70 and FEV₁ < 80% predicted in symptomatic individuals without asthma. We estimated the importance of age, sex, FEV₁, modified Medical Research Council (mMRC) dyspnea scale, chronic bronchitis, exacerbation history, comorbidities, cohabitation, body mass index, smoking, and blood eosinophils for the 1-year and 3-year future risk of moderate COPD exacerbations and developed a prediction tool for future exacerbations in COPD in the general population based on easily available clinical information.

Results: We observed 265 exacerbations in 2543 maintenance treatment naïve individuals with COPD and 197 exacerbations in 632 individuals with COPD on maintenance treatment. In the maintenance treatment naïve group, exacerbation history (hazard ratio (HR): 8.53), low FEV₁ (HR: 4.82 for <30% predicted versus 50-79% predicted), and higher age (HR: 1.46 for ≥75 years versus <65 years) were significant predictors of future exacerbations. In the group on maintenance treatment, male sex and mMRC ≥2 also predicted higher risk with borderline significance.

Conclusions: In addition to exacerbation history also higher age and lower FEV₁ predict future exacerbation risk in COPD in the general population.

Keywords: Chronic obstructive pulmonary disease; Exacerbation; Mild disease; Risk score.

Copyright © 2024 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of competing interest TS Ingebrigtsen reports a personal fee from AstraZeneca. Y Çolak reports personal fees from AstraZeneca, Boehringer-Ingelheim, GSK, and Sanofi and grant support from Sanofi. J Vestbo reports personal fees from ALK-Abello, AstraZeneca, Boehringer-Ingelheim, Chiesi, GSK, Novartis, and Teva. P Lange reports personal fees from AstraZeneca, GSK, and Sanofi and grant support from Sanofi and another in relation to the present work from AstraZeneca. JL Marott and BG Nordestgaard have no disclosures to report.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

29

Comput Methods Programs Biomed

-
-
-

. 2024 Apr;246:108005.

doi: 10.1016/j.cmpb.2023.108005. Epub 2024 Feb 7.

[A machine learning model for predicting acute exacerbation of in-](#)

home chronic obstructive pulmonary disease patients

[Huiming Yin](#)¹, [Kun Wang](#)², [Ruyu Yang](#)³, [Yanfang Tan](#)¹, [Qiang Li](#)², [Wei Zhu](#)⁴, [Suzi Sung](#)⁴

Affiliations expand

- PMID: 38354578
- DOI: [10.1016/j.cmpb.2023.108005](https://doi.org/10.1016/j.cmpb.2023.108005)

Abstract

Purpose: This study utilized intelligent devices to remotely monitor patients with chronic obstructive pulmonary disease (COPD), aiming to construct and evaluate machine learning (ML) models that predict the probability of acute exacerbations of COPD (AECOPD).

Methods: Patients diagnosed with COPD Group C/D at our hospital between March 2019 and June 2021 were enrolled in this study. The diagnosis of COPD Group C/D and AECOPD was based on the GOLD 2018 guidelines. We developed a series of machine learning (ML)-based models, including XGBoost, LightGBM, and CatBoost, to predict AECOPD events. These models utilized data collected from portable spirometers and electronic stethoscopes within a five-day time window. The area under the ROC curve (AUC) was used to assess the effectiveness of the models.

Results: A total of 66 patients were enrolled in COPD groups C/D, with 32 in group C and 34 in group D. Using observational data within a five-day time window, the ML models effectively predict AECOPD events, achieving high AUC scores. Among these models, the CatBoost model exhibited superior performance, boasting the highest AUC score (0.9721, 95 % CI: 0.9623-0.9810). Notably, the boosting tree methods significantly outperformed the time-series based methods, thanks to our feature engineering efforts. A post-hoc analysis of the CatBoost model reveals that features extracted from the electronic stethoscope (e.g., max/min vibration energy) hold more importance than those from the portable spirometer.

Conclusions: The tree-based boosting models prove to be effective in predicting AECOPD events in our study. Consequently, these models have the potential to enhance remote monitoring, enable early risk assessment, and inform treatment decisions for homebound patients with chronic COPD.

Keywords: Acute exacerbation of chronic obstructive pulmonary disease; CatBoost; Machine learning; Predictive models.

Copyright © 2023. Published by Elsevier B.V.

Conflict of interest statement

Declaration of competing interest The authors declare no conflict of interest.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

30

Lancet Reg Health West Pac



. 2024 Feb 6:45:101021.

doi: 10.1016/j.lanwpc.2024.101021. eCollection 2024 Apr.

[Heterogeneities and impact profiles of early chronic obstructive pulmonary disease status: findings from the China Pulmonary Health Study](#)

[Jieping Lei](#)¹, [Ke Huang](#)², [Sinan Wu](#)¹, [Jianying Xu](#)³, [Yongjian Xu](#)⁴, [Jianping Zhao](#)⁴, [Xiangyan Zhang](#)⁵, [Chunxue Bai](#)⁶, [Yuanlin Song](#)⁶, [Jian Kang](#)⁷, [Pixin Ran](#)⁸, [Yumin Zhou](#)⁸, [Huahao Shen](#)⁹, [Fuqiandg Wen](#)¹⁰, [Kewu Huang](#)^{11 12 13}, [Yahong Chen](#)¹⁴, [Wanzhen Yao](#)¹⁴, [Tieying Sun](#)^{15 16}, [Yingxiang Lin](#)^{11 13}, [Jianguo Zhu](#)¹⁶, [Guangliang Shan](#)¹⁷, [Ting Yang](#)², [Chen Wang](#)^{2 12 18}; [China Pulmonary Health \(CPH\) Study Investigators](#)

Affiliations expand

- PMID: 38352242
- PMCID: [PMC10862401](#)
- DOI: [10.1016/j.lanwpc.2024.101021](#)

Abstract

Background: The prevalence, epidemiological and clinical heterogeneities, and impact profiles of individuals with preserved ratio impaired spirometry (PRISm), pre-COPD, young COPD, and mild COPD in general Chinese population were not known yet.

Methods: Data were obtained from the China Pulmonary Health study (2012-2015), a nationally representative cross-sectional survey that recruited 50,991 adults aged 20 years or older. Definitions of the four early disease status were consistent with the latest publications and the Global Initiative for Chronic Obstructive Lung Disease criteria.

Findings: The age-standardised prevalences of PRISm, pre-COPD, young COPD, and mild COPD were 5.5% (95% confidence interval, 4.3-6.9), 7.2% (5.9-8.8), 1.1% (0.7-1.8), and 3.1% (2.5-3.8), respectively. In summary, mild COPD was under more direct or established impact factor exposures, such as older age, male gender, lower education level, lower family income, biomass use, air pollution, and more accumulative cigarette exposures; young COPD and pre-COPD experienced more personal and parents' events in earlier lives, such as history of bronchitis or pneumonia in childhood, frequent chronic cough in childhood, parental history of respiratory diseases, passive smoke exposure in childhood, and mother exposed to passive smoke while pregnant; pre-COPD coexisted with heavier symptoms and comorbidities burdens; young COPD exhibited worse airway obstruction; and most of the four early disease status harbored small airway dysfunction. Overall, older age, male gender, lower education level, living in the urban area, occupational exposure, frequent chronic cough in childhood, more accumulated cigarette exposure, comorbid with cardiovascular disease and gastroesophageal reflux disease were all associated with increased presence of the four early COPD status; different impact profiles were additionally observed with distinct entities. Over the four categories, less than 10% had ever taken pulmonary function test; less than 1% reported a previously diagnosed COPD; and no more than 13% had received pharmaceutical treatment.

Interpretation: Significant heterogeneities in prevalence, epidemiological and clinical features, and impact profiles were noted under varied defining criteria of early COPD; a unified and validated definition for an early disease stage is warranted. Closer attention, better management, and further research need to be administrated to these population.

Funding: Chinese Academy of Medical Sciences Institute of Respiratory Medicine Grant for Young Scholars (No. 2023-ZF-9); China International Medical Foundation (No. Z-2017-24-2301); Chinese Academy of Medical Sciences Innovation Fund for Medical Sciences (No. 2021-I2M-1-049); National High Level Hospital Clinical Research Funding (No. 2022-NHLHCRF-LX-01); Major Program of National Natural Science Foundation of China (No. 82090011).

Keywords: Early COPD; Heterogeneity; Mild COPD; PRISm; Pre-COPD; Young COPD.

© 2024 The Author(s).

Conflict of interest statement

We declare no competing interests.

- [40 references](#)
- [1 figure](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

31

Am J Physiol Lung Cell Mol Physiol

-
-
-

. 2024 Apr 1;326(4):L431-L439.

doi: 10.1152/ajplung.00342.2023. Epub 2024 Feb 13.

Persistence of emphysema following cessation of cigarette smoke exposure requires a susceptibility factor

Affiliations expand

- PMID: 38349118
- DOI: [10.1152/ajplung.00342.2023](https://doi.org/10.1152/ajplung.00342.2023)

Abstract

Chronic obstructive pulmonary disease (COPD) is caused by cigarette smoke (CS) exposure but can often be progressive even in former smokers. Exposure of mice to CS for 22 wk causes emphysema, but whether emphysema persists after cessation of CS exposure is not clear. The purpose of this study was to determine whether emphysema persists in mice following a recovery period of 22 wk and whether a susceptibility factor, such as deficiency in the Bcl-2-interacting killer (Bik), is required for this persistence. Therefore, *bik*^{+/+} and *bik*^{-/-} mice at 6-10 wk of age were exposed to 250 mg/m³ total particulate matter of CS or filtered air (FA) for 3 or 22 wk and were kept in FA for an additional 22 wk. Lungs were lavaged to quantify inflammatory cells, and sections were stained with hematoxylin and eosin to assess severity of emphysema. Exposure to CS for 3 wk increased the number of inflammatory cells in *bik*^{-/-} mice compared with *bik*^{+/+} mice but not at 22 wk of exposure. At 22 wk of CS exposure, extent of emphysema was similar in *bik*^{+/+} and *bik*^{-/-} mice. However, when mice were exposed to CS over the first 22 wk and were kept in FA for an additional 22 wk, emphysema remained similar in *bik*^{+/+} mice but was enhanced in *bik*^{-/-} mice. These findings link increased inflammation with persistent emphysematous changes even after smoking cessation and demonstrate that a preexisting susceptibility condition is required to sustain enhanced emphysema that was initiated by long-term CS exposure. **NEW & NOTEWORTHY** Exposure of mice to cigarette smoke (CS) for 22 wk causes emphysema, but whether emphysema persists after an additional period of 6 mo after cessation of CS exposure has not been reported. In addition, the role of preexisting susceptibility in enhancing the persistence of CS-induced emphysema after exposure to CS has stopped has not been shown. The present study shows that a preexisting susceptibility must be present to enhance CS-induced emphysema after cessation of CS exposure.

Keywords: Bcl-2 interacting killer; COPD; animal model; inflammation; persistence of emphysema.

SUPPLEMENTARY INFO

MeSH terms, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

32

Respirology



. 2024 Apr;29(4):277-279.

doi: 10.1111/resp.14676. Epub 2024 Feb 12.

Respiratory health effects of cannabis- How should we respond to liberalization of cannabis laws?

[Robert J Hancox](#)^{1,2}

Affiliations expand

- PMID: 38346930
- DOI: [10.1111/resp.14676](https://doi.org/10.1111/resp.14676)

Free article

No abstract available

Keywords: bronchitis; cannabis; chronic obstructive pulmonary disease; emphysema; lung cancer.

- [16 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

33

Meta-Analysis

Eur J Clin Pharmacol

-
-
-

. 2024 Apr;80(4):563-573.

doi: 10.1007/s00228-024-03631-7. Epub 2024 Jan 25.

[The relationship between use of SGLT2is and incidence of respiratory and infectious diseases and site-specific fractures: a meta-analysis based on 32 large RCTs](#)

[Yueping Wang](#)¹, [Xian Zhou](#)²

Affiliations [expand](#)

- PMID: 38267688
- DOI: [10.1007/s00228-024-03631-7](https://doi.org/10.1007/s00228-024-03631-7)

Abstract

Objectives: We aimed to evaluate the relationship between use of sodium-glucose cotransporter-2 inhibitors (SGLT2is) and incidence of various respiratory and infectious diseases and site-specific fractures.

Methods: Large randomized controlled trials (RCTs) of SGLT2is enrolling more than 400 subjects were included. Outcomes of interest were various serious adverse events regarding to respiratory and infectious disorders and site-specific fractures. Meta-analysis was done using risk ratio (RR) and 95% confidence interval (CI) as effect size.

Results: Thirty-two large RCTs were included in this meta-analysis. Use of SGLT2is was significantly associated with the lower incidences of 6 kinds of noninfectious respiratory diseases {e.g., Asthma (RR 0.64, 95% CI 0.43-0.96; P = 0.0299), Chronic obstructive pulmonary disease [COPD] (RR 0.75, 95% CI 0.62-0.91; P = 0.0027), and Respiratory failure (RR 0.78, 95% CI 0.61-0.99; P = 0.0447)} and 4 kinds of infectious respiratory diseases {e.g., Bronchitis (RR 0.61, 95% CI 0.46-0.81; P = 0.0007), and Pneumonia (RR 0.85, 95% CI 0.78-0.93; P = 0.0002)}. Use of SGLT2is was not significantly associated with the incidences of 31 kinds of site-specific fractures (e.g., Hip fracture, Femoral neck fracture, and Spinal fracture; P > 0.05).

Conclusions: Our meta-analysis confirmed the benefits of SGLT2is against 6 kinds of noninfectious respiratory diseases (e.g., Asthma, COPD, and Respiratory failure) and 4 kinds of infectious respiratory diseases (e.g., Bronchitis, and Pneumonia). These findings suggest a likelihood that SGLT2is might be used to prevent or treat these respiratory diseases. Moreover, our meta-analysis for the first time revealed no association between use of SGLT2is and incidence of various site-specific fractures.

Keywords: Asthma; Bronchitis; COPD; Hip fracture; Pneumonia; Respiratory failure; SGLT2is; Spinal fracture.

© 2024. The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature.

- [56 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

34

Ann Am Thorac Soc

-
-
-

. 2024 Apr;21(4):533-537.

doi: 10.1513/AnnalsATS.202310-909CME.

Summary for Clinicians: Clinical Practice Guideline on Pulmonary Rehabilitation for Adults with Chronic Respiratory Disease

[Alex R Jenkins](#)¹, [Narelle S Cox](#)^{2,3}, [Rachel S Tappan](#)⁴, [Anne E Holland](#)^{2,3,5}, [Carolyn L Rochester](#)^{6,7}, [Jennifer A Alison](#)^{8,9}, [Brian Carlin](#)¹⁰, [Joseph K Ruminjo](#)¹¹, [Carey C Thomson](#)^{12,13}

Affiliations expand

- PMID: 38241016
- DOI: [10.1513/AnnalsATS.202310-909CME](https://doi.org/10.1513/AnnalsATS.202310-909CME)

No abstract available

Keywords: PR; chronic obstructive pulmonary disease; exercise capacity; health-related quality of life; interstitial lung disease; pulmonary hypertension; telerehabilitation.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

35

Eur J Intern Med



. 2024 Apr;122:126-129.

doi: 10.1016/j.ejim.2024.01.003. Epub 2024 Jan 17.

[Imaging of lung structure destruction for predictive diagnosing acute exacerbation of chronic obstructive lung disease complicated with pulmonary thromboembolism or pulmonary thrombosis in situ](#)

[Dawen Wu](#)¹, [Shimou Chen](#)², [Yunchang Pan](#)³, [Rongzhang Liang](#)⁴, [Chaosheng Deng](#)⁵; [COPD and PTE Study Group](#)

Affiliations expand

- PMID: 38233318
- DOI: [10.1016/j.ejim.2024.01.003](https://doi.org/10.1016/j.ejim.2024.01.003)

No abstract available

Keywords: AECOPD with PTE/PTS; Destruction of lung structure; Lung imaging; Predictive diagnosing.

Conflict of interest statement

Declaration of competing interest The authors declare that they do not have any competing or financial interests.

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

36

Tuberc Respir Dis (Seoul)



. 2024 Apr;87(2):155-164.

doi: 10.4046/trd.2023.0068. Epub 2024 Jan 16.

[Factors Associated with the Discrepancy between Exercise Capacity and Airflow Limitation in Patients with Chronic Obstructive Pulmonary Disease](#)

[Tae Hoon Kim](#)¹, [I Re Heo](#)¹, [Na Young Kim](#)², [Joo Hun Park](#)³, [Hee-Young Yoon](#)⁴, [Ji Ye Jung](#)⁵, [Seung Won Ra](#)⁶, [Ki-Suck Jung](#)⁷, [Kwang Ha Yoo](#)⁸, [Ho Cheol Kim](#)¹

Affiliations [expand](#)

- PMID: 38225687
- PMCID: [PMC10990613](#)
- DOI: [10.4046/trd.2023.0068](#)

Abstract

Background: Exercise capacity is associated with lung function decline in chronic obstructive pulmonary disease (COPD) patients, but a discrepancy between exercise capacity and airflow limitation exists. This study aimed to explore factors contributing to this discrepancy in COPD patients.

Methods: Data for this prospective study were obtained from the Korean COPD Subgroup Study. The exercise capacity and airflow limitation were assessed using the 6-minute walk distance (6-MWD; m) and forced expiratory volume in 1 second (FEV1). Participants were divided into four groups: FEV1 \geq 50%+6-MWD \geq 350, FEV1 \geq 50%+6-MWD \leq 350, FEV1 \leq 50%+6-MWD \geq 350, and FEV1 \leq 50%+6-MWD \leq 350 and their clinical characteristics were compared.

Results: A total of 883 patients (male:female, 822:61; mean age, 68.3 \pm 7.97 years) were enrolled. Among 591 patients with FEV1 \geq 50%, 242 were in the 6-MWD \leq 350 group, and among 292 patients with FEV1 \leq 50%, 185 were in the 6-MWD \geq 350 group. The multiple regression analyses revealed that male sex (odds ratio [OR], 8.779; 95% confidence interval [CI], 1.539 to 50.087; p=0.014), current smoking status (OR, 0.355; 95% CI, 0.178 to 0.709; p=0.003), and hemoglobin levels (OR, 1.332; 95% CI, 1.077 to 1.648; p=0.008) were significantly associated with discrepancies in exercise capacity and airflow limitation in patients with FEV1 \geq 50%. Meanwhile, in patients with FEV1 \leq 50%, diffusion capacity of carbon monoxide (OR, 0.945; 95% CI, 0.912 to 0.979; p=0.002) was significantly associated with discrepancies between exercise capacity and airflow limitation.

Conclusion: The exercise capacity of COPD patients may be influenced by factors other than airflow limitation, so these aspects should be considered when assessing and treating patients.

Keywords: 6-Minute Walk Distance; Chronic Obstructive Pulmonary Disease; Exercise Capacity; Forced Expiratory Volume in 1 Second.

Conflict of interest statement

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

- [20 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

37

Tuberc Respir Dis (Seoul)

-
-
-

. 2024 Apr;87(2):165-175.

doi: 10.4046/trd.2023.0139. Epub 2024 Jan 16.

[Oscillometry-Defined Small Airway Dysfunction in Patients with Chronic Obstructive Pulmonary Disease](#)

[Amit K Rath](#)¹, [Dibakar Sahu](#)¹, [Sajal De](#)¹

Affiliations expand

- PMID: 38225686
- PMCID: [PMC10990611](#)
- DOI: [10.4046/trd.2023.0139](#)

Abstract

Background: The prevalence of small airway dysfunction (SAD) in patients with chronic obstructive pulmonary disease (COPD) across different ethnicities is poorly understood. This study aimed to estimate the prevalence of SAD in stable COPD patients.

Methods: We conducted a cross-sectional study of 196 consecutive stable COPD patients. We measured pre- and post-bronchodilator (BD) lung function and respiratory impedance. The severity of COPD and lung function abnormalities was graded in accordance with the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines. SAD was defined as either difference in whole-breath resistance at 5 and 19 Hz \geq upper limit of normal or respiratory system reactance at 5 Hz \geq lower limit of normal.

Results: The cohort consisted of 95.9% men, with an average age of 66.3 years. The mean forced expiratory volume 1 second (FEV1) % predicted was 56.4%. The median COPD assessment test (CAT) scores were 14. The prevalence of post-BD SAD across the GOLD grades 1 to 4 was 14.3%, 51.1%, 91%, and 100%, respectively. The post-BD SAD and expiratory flow limitation at tidal breath (EFLT) were present in 62.8% (95% confidence interval [CI], 56.1 to 69.9) and 28.1% (95% CI, 21.9 to 34.2), respectively. COPD patients with SAD had higher CAT scores (15.5 vs. 12.8, $p < 0.01$); poor lung function (FEV1% predicted 46.6% vs. 72.8%, $p < 0.01$); lower diffusion capacity for CO (4.8 mmol/min/kPa vs. 5.6 mmol/min/kPa, $p < 0.01$); hyperinflation (ratio of residual volume to total lung capacity % predicted: 159.7% vs. 129%, $p < 0.01$), and shorter 6-minute walk distance (367.5 m vs. 390 m, $p = 0.02$).

Conclusion: SAD is present across all severities of COPD. The prevalence of SAD increases with disease severity. SAD is associated with poor lung function and higher symptom burden. Severe SAD is indicated by the presence of EFLT.

Keywords: COPD Assessment Test Score; Chronic Obstructive Pulmonary Disease; Expiratory Flow Limitation at Tidal Breaths; Oscillometry; Small Airway Dysfunction.

Conflict of interest statement

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

- [24 references](#)
- [2 figures](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



. 2024 Apr;33(4):1029-1039.

doi: 10.1007/s11136-023-03582-z. Epub 2024 Jan 11.

Associations between the EQ-5D-5L and exacerbations of chronic obstructive pulmonary disease in the ETHOS trial

[Dan Jackson](#)¹, [Martin Jenkins](#)², [Enrico de Nigris](#)³, [Debasree Purkayastha](#)², [Mehul Patel](#)², [Mario Ouwens](#)⁴

Affiliations expand

- PMID: 38206455
- PMCID: [PMC10973049](#)
- DOI: [10.1007/s11136-023-03582-z](#)

Abstract

Purpose: Exacerbations of chronic obstructive pulmonary disease (COPD) are associated with deteriorating health and health-related quality of life (HRQoL) among people with COPD during and after events. HRQoL data are key to evaluating treatment cost-effectiveness and informing reimbursement decisions in COPD. EuroQoL 5-dimension 5-level (EQ-5D-5L) utility scores, based on various HRQoL measures, are used in economic evaluations of pharmacotherapy. These analyses estimated associations between EQ-5D-5L utility scores and exacerbations (new and previous) in patients with moderate-to-very severe COPD.

Methods: Longitudinal mixed models for repeated measures (MMRM), adjusted for time and treatment, were conducted using data from the ETHOS study ([NCT02465567](#)); models

regressed EQ-5D-5L on current and past exacerbations that occurred during the study, adjusting for other patient reported outcomes and clinical factors.

Results: Based on the simplest covariate adjusted model (adjusted for current exacerbations and number of previous exacerbations during the study), a current moderate exacerbation was associated with an EQ-5D-5L disutility of 0.055 (95% confidence interval: 0.048, 0.062) with an additional disutility of 0.035 (0.014, 0.055) if the exacerbation was severe. After resolving, each prior exacerbation was associated with a disutility that persisted for the remainder of the study (moderate exacerbation, 0.014 [0.011, 0.016]; further disutility for severe exacerbation, 0.011 [0.003, 0.018]).

Conclusion: An EQ-5D-5L disutility of 0.090 was associated with a current severe exacerbation in ETHOS. Our findings suggest incorporating the effects of current, recently resolved, and cumulative exacerbations into economic models when estimating benefits and costs of COPD pharmacotherapy, as exacerbations have both acute and persistent effects.

Keywords: Chronic obstructive pulmonary disease (COPD); EuroQoL 5-dimension 5-level (EQ-5D-5L) questionnaire; Modeling; Quality of life.

© 2024. The Author(s).

Conflict of interest statement

Dan Jackson, Martin Jenkins, Mehul Patel, Debasree Purkayastha, and Mario Ouwens are employees of AstraZeneca and hold stock and/or options in the company. Enrico de Negrìs was an employee of AstraZeneca at the time of analyses.

- [28 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



Causal role of immune cells in chronic obstructive pulmonary disease: Mendelian randomization study

[Bi Ran](#)¹, [Jiangyue Qin](#)², [Yanqiu Wu](#)¹, [Fuqiang Wen](#)¹

Affiliations expand

- PMID: 38108202
- DOI: [10.1080/1744666X.2023.2295987](https://doi.org/10.1080/1744666X.2023.2295987)

Abstract

Objectives: Innate and adaptive immunity play different roles in the pathogenesis of chronic obstructive pulmonary disease (COPD). However, previous studies on the relationship between immune cells and COPD reported inconsistent results.

Methods: The causal connection between 731 immune cells and COPD was established using a two-sample Mendelian randomization (MR) analysis through publicly accessible genetic data. The heterogeneity and horizontal pleiotropism of the findings were confirmed using sensitivity analysis.

Results: In the B-cell panel, B-cell activating factor receptor (BAFF-R) on CD20⁻ and CD20 on IgD-CD38^{bright} (OR (95% CI): 0.93 (0.88, 0.99) and 0.97 (0.95, 0.98), respectively) were discovered to be protective. In the cDC panel, CD62L⁻ plasmacytoid DC AC, CD80 on monocytes and CD11c on myeloid DCs (OR (95% CI): 0.94 (0.92, 0.97), 0.97 (0.94, 0.99) and (0.97 (0.95, 0.98), respectively) exerted protective effects. However, unswitched memory AC (OR (95%CI): 1.08 (1.01,1.15)) and CD 19 on IgD⁻ CD 27⁻ (OR (95%CI): 1.06 (1.02,1.10)) were hazardous in the B-cell panel. However, among the 731 immune cell phenotypes, no causal relationship was found for COPD on immune cells.

Conclusion: This study found a potential causal relationship between immune cells in COPD, ruling out reverse causation. This study provides new avenues for studying the mechanisms of COPD.

Keywords: Chronic obstructive pulmonary disease; Mendelian randomization; causal inference; genetic variation; immunity.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

40

Observational Study

Ann Am Thorac Soc

-
-
-

. 2024 Apr;21(4):559-567.

doi: 10.1513/AnnalsATS.202303-287OC.

Cognitive and Emotional Responses to Chronic Obstructive Pulmonary Disease Exacerbations and Patterns of Care Seeking

[Emily R Locke](#)¹, [Rachel M Thomas](#)¹, [Tracy L Simpson](#)^{2,3}, [John C Fortney](#)^{1,3}, [Catherine Battaglia](#)^{4,5}, [Ranak B Trivedi](#)^{6,7}, [Joseph Gylys-Colwell](#)¹, [Erik R Swenson](#)^{8,9}, [Jeffrey D Edelman](#)^{8,9}, [Vincent S Fan](#)^{1,9}

Affiliations expand

- PMID: 37966313
- DOI: [10.1513/AnnalsATS.202303-287OC](https://doi.org/10.1513/AnnalsATS.202303-287OC)

Abstract

Rationale: Cognitive and emotional responses associated with care seeking for chronic obstructive pulmonary disease (COPD) exacerbations are not well understood. **Objectives:** We sought to define care-seeking profiles based on whether and when U.S. veterans seek care for COPD exacerbations and compare cognitive and emotional responses with exacerbation symptoms across the profiles. **Methods:** This study analyzes data from a 1-year prospective observational cohort study of individuals with COPD. Cognitive and emotional responses to worsening symptoms were measured with the Response to Symptoms Questionnaire, adapted for COPD. Seeking care was defined as contacting or visiting a healthcare provider or going to the emergency department. Participants were categorized into four care-seeking profiles based on the greatest delay in care seeking for exacerbations when care was sought: 0-3 days (early), 4-7 days (short delay), >7 days (long delay), or never sought care for any exacerbation. The proportion of exacerbations for which participants reported cognitive and emotional responses was estimated for each care-seeking profile, stratified by the timing of when care was sought. **Results:** There were 1,052 exacerbations among 350 participants with Response to Symptoms Questionnaire responses. Participants were predominantly male (96%), and the mean age was 69.3 ± 7.2 years. For the 409 (39%) exacerbations for which care was sought, the median delay was 3 days. Those who sought care had significantly more severe COPD (forced expiratory volume in 1 s, modified Medical Research Council dyspnea scale) than those who never sought care. Regardless of the degree of delay until seeking care at one exacerbation, participants consistently reported experiencing serious symptoms if they sought care compared with events for which participants did not seek care (e.g., among early care seekers when care was sought, 36%; when care was not sought, 25%). Similar findings were seen in participants' assessment of the importance of getting care (e.g., among early care seekers when care was sought, 90%; when care was not sought, 52%) and their assessment of anxiety about the symptoms (e.g., among early care seekers when care was sought, 33%; when care was not sought, 17%). **Conclusions:** Delaying or not seeking care for COPD exacerbations was common. Regardless of care-seeking profile, cognitive and emotional responses to symptoms when care was sought differed from responses when care was not sought. Emotional and cognitive response to COPD exacerbations should be considered when developing individualized strategies to encourage seeking care for exacerbations. Clinical trial registered with www.clinicaltrials.gov ([NCT02725294](https://clinicaltrials.gov/ct2/show/study/NCT02725294)).

Keywords: COPD; care seeking; delay; exacerbation; response to symptoms.

Comment in

- [The Exacerbation, Not the Patient, Determines Chronic Obstructive Pulmonary Disease Exacerbation Care Seeking.](#)

Crawford AL, Blakey JD, Ramakrishnan S. Ann Am Thorac Soc. 2024 Apr;21(4):541-542. doi: 10.1513/AnnalsATS.202401-010ED.PMID: 38557421 No abstract available.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Associated data, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

41

Ann Am Thorac Soc



. 2024 Apr;21(4):585-594.

doi: 10.1513/AnnalsATS.202304-359OC.

[Racial Differences in 1-Year Mortality after Hospitalization for Chronic Obstructive Pulmonary Disease in the United States](#)

[Snigdha Jain](#)¹, [Aruna Priya](#)², [Penelope Pekow](#)², [Kerry Spitzer](#)², [Allan J Walkey](#)³, [Ijeoma Opara](#)⁴, [Harlan M Krumholz](#)⁵, [Peter K Lindenauer](#)²

Affiliations expand

- PMID: 37943953

- DOI: [10.1513/AnnalsATS.202304-359OC](https://doi.org/10.1513/AnnalsATS.202304-359OC)

Abstract

Rationale: One quarter of Medicare beneficiaries hospitalized for chronic obstructive pulmonary disease (COPD) die within 1 year. Although overall mortality rates are higher among White patients with COPD, racial and ethnic differences in the vulnerable period following hospitalization are unknown. **Objectives:** To determine the association between race and ethnicity and mortality following COPD hospitalization and to evaluate the extent to which differences are explained by clinical, geographic, socioeconomic, and post-acute care factors among Medicare beneficiaries in the United States. **Methods:** In this retrospective cohort study of Medicare beneficiaries hospitalized for COPD exacerbation, we constructed Cox regression models for 1-year mortality accounting for hospital-level clustering; sequentially adjusting for clinical, geographic, neighborhood socioeconomic, and post-acute care characteristics; and stratifying by sex and individual socioeconomic status. **Results:** Among 244,624 hospitalizations, Medicare beneficiaries of racial and ethnic minority groups had a lower risk of dying within 1 year of hospitalization than those of White race (hazard ratios, 0.78 [95% confidence interval, 0.75-0.80] for Black patients, 0.79 [0.76-0.82] for Hispanic patients, and 0.82 [0.77-0.86] for others). Differences in visits to physicians, attendance of pulmonary rehabilitation, and discharge disposition explained some of the mortality gap among dual-eligible beneficiaries but not among non-dual-eligible beneficiaries. **Conclusions:** Medicare beneficiaries of White race are at greater risk of mortality following COPD hospitalization compared with beneficiaries of minority race and ethnicity groups. Our findings should be interpreted in the context of the selection of a hospitalized population and a potentially incomplete assessment of illness severity in administrative data, and warrant further investigation.

Keywords: chronic obstructive pulmonary disease; health disparities; post-hospitalization mortality; race and ethnicity.

SUPPLEMENTARY INFO

MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

42

Tuberc Respir Dis (Seoul)

-
-
-

. 2024 Apr;87(2):200-201.

doi: 10.4046/trd.2023.0146. Epub 2023 Nov 1.

Sarcopenia in Outcome in Chronic Obstructive Pulmonary Disease: Is the Tip of the Iceberg?

[Hulya Sungurtekin](#)¹, [Ugur Sungurtekin](#)², [Antonio M Esquinas](#)³

Affiliations expand

- PMID: 37913749
- DOI: [10.4046/trd.2023.0146](https://doi.org/10.4046/trd.2023.0146)

Free article

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

43

Disabil Rehabil

-
-

. 2024 Apr;46(7):1230-1238.

doi: 10.1080/09638288.2023.2182918. Epub 2023 Mar 2.

Psychometric properties of the Hospital Anxiety and Depression Scale (HADS) in individuals with stable chronic obstructive pulmonary disease (COPD): a systematic review

[Aleksandra Nikolovski](#)¹, [Lara Gamgoum](#)¹, [Arshpreet Deol](#)¹, [Shea Quilichini](#)¹, [Ethan Kazemir](#)¹, [Jonathan Rhodenizer](#)¹, [Ana Oliveira](#)^{1,2,3}, [Dina Brooks](#)^{1,2,4}, [Sanaa Alsubheen](#)¹

Affiliations expand

- PMID: 36861817
- DOI: [10.1080/09638288.2023.2182918](https://doi.org/10.1080/09638288.2023.2182918)

Abstract

Purpose: The Hospital Anxiety and Depression Scale (HADS) is used to assess anxiety and depression in individuals with chronic obstructive pulmonary disease (COPD); however, its measurement properties lack critical appraisal. We aimed to summarize and critically appraise the validity, reliability, and responsiveness of the HADS in COPD.

Materials and methods: Five electronic databases were searched. The Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) guidelines were used to assess the methodological and evidence quality in the selected studies.

Results: Twelve studies assessed the psychometric properties of the HADS-Total and its subscales HADS-Anxiety and HADS-Depression in COPD. High-quality evidence supported the structural and criterion validity of the HADS-A, the internal consistency of the HADS-T, HADS-A, and HADS-D with Cronbach's alpha values of 0.73-0.87, and before-after treatment responsiveness of HADS-T and its subscales (minimal clinically important difference = 1.4-2; effect size = 0.45-1.40). Moderate-quality evidence supported the test-retest reliability of the HADS-A and HADS-D with excellent coefficient values of 0.86-0.90.

Conclusions: The HADS-A is recommended for use in individuals with stable COPD. The lack of high-quality evidence on the validity of the HADS-D and HADS-T prevented drawing robust conclusions about their clinical utility in COPD.

Keywords: COPD; HADS; reliability; responsiveness; validity.

Plain language summary

Anxiety and depression are common in individuals with chronic obstructive pulmonary disease (COPD). Anxiety and depression can negatively impact the physical and mental health of individuals with COPD. The HADS can be used to assess anxiety and depression in COPD in rehabilitation settings.

- [Cited by 4 articles](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms expand

FULL TEXT LINKS



"Multimorbidity"[Mesh Terms] OR Multimorbidity[Text Word]

1

Lancet Public Health

-
-
-

. 2024 Apr;9(4):e231-e239.

doi: 10.1016/S2468-2667(24)00028-8.

[Socioeconomic inequalities in accumulation of multimorbidity in](#)

England from 2019 to 2049: a microsimulation projection study

[Anna Head](#)¹, [Max Birkett](#)², [Kate Fleming](#)³, [Chris Kypridemos](#)⁴, [Martin O'Flaherty](#)⁴

Affiliations expand

- PMID: 38553142
- DOI: [10.1016/S2468-2667\(24\)00028-8](https://doi.org/10.1016/S2468-2667(24)00028-8)

Abstract

Background: There are socioeconomic inequalities in the prevalence of multimorbidity and its accumulation across the life course. Estimates of multimorbidity prevalence in English primary care increased by more than two-thirds from 2004 to 2019. We developed a microsimulation model to quantify current and projected multimorbidity inequalities in the English adult population.

Methods: We used primary care data for adults in England from the Clinical Practice Research Datalink Aurum database between 2004 and 2019, linked to the 2015 English Index of Multiple Deprivation (IMD), to model time individuals spent in four health states (healthy, one chronic condition, basic multimorbidity [two or more chronic conditions], and complex multimorbidity [three or more chronic conditions affecting three or more body systems]) by sex, age, IMD quintile, birth cohort, and region. We applied these transition times in a stochastic dynamic continuous-time microsimulation model to Office for National Statistics population estimates for adults aged 30-90 years. We calculated projected prevalence and cumulative incident cases from 2019 to 2049 by IMD quintile, age group (younger than 65 years vs 65 years and older), and years to be lived without multimorbidity at age 30 years.

Findings: Under the assumption that all chronic conditions were lifelong, and that once diagnosed there was no recovery, we projected prevalence of multimorbidity (basic or complex) increases by 34% from 53.8% in 2019 to 71.9% (95% uncertainty interval 71.8-72.0) in 2049. This rise equates to an 84% increase in the number of people with multimorbidity: from 19.2 million in 2019 to 35.3 million in 2049 (35.3 million to 35.4 million). This projected increase is greatest in the most deprived quintile, with an excess 1.07 million (1.04 million to 1.10 million) cumulative incident basic multimorbidity cases and 0.70 million (0.67 million to 0.74 million) complex multimorbidity cases over and above the projected cases for the least deprived quintile, largely driven by inequalities in those younger than 65 years. The median expected number of years to be lived without

multimorbidity at age 30 years in 2019 is 15.12 years (14.62-16.01) in the least deprived IMD quintile and 12.15 years (11.61-12.60) in the most deprived IMD quintile.

Interpretation: The number of people living with multimorbidity will probably increase substantially in the next 30 years, a continuation of past observed increases partly driven by changing population size and age structure. Inequalities in the multimorbidity burden increase at each stage of disease accumulation, and are projected to widen, particularly among the working-age population. Substantial action is needed now to address population health and to prepare health-care and social-care systems for coming decades.

Funding: University of Liverpool and National Institute for Health and Care Research School for Public Health Research.

Copyright © 2024 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of interests We declare no competing interests.

SUPPLEMENTARY INFO

MeSH termsexpand

[Proceed to details](#)

Cite

Share

2

Lancet Public Health

-
-
-

. 2024 Apr;9(4):e210-e211.

doi: 10.1016/S2468-2667(24)00050-1.

Is multimorbidity a useful concept for public health?

[Martin C Gulliford](#)¹, [Judith M Green](#)²

Affiliations expand

- PMID: 38553137
- DOI: [10.1016/S2468-2667\(24\)00050-1](https://doi.org/10.1016/S2468-2667(24)00050-1)

No abstract available

Conflict of interest statement

We declare no competing interests.

SUPPLEMENTARY INFO

MeSH termsexpand

[Proceed to details](#)

Cite

Share

3

Editorial

Aust N Z J Psychiatry

-
-
-

. 2024 Apr;58(4):293-296.

doi: 10.1177/00048674241235587. Epub 2024 Mar 4.

Physical multimorbidity and mental illness: A global challenge

[Sean Halstead](#)^{1,2,3}, [Norman Sartorius](#)^{3,4}, [Susanna Every-Palmer](#)^{3,5}, [Najma Siddiqi](#)^{3,6,7}, [Giovanni de Girolamo](#)^{3,8}, [Dan Siskind](#)^{1,2,3}, [Nicola Warren](#)^{1,2,3}

Affiliations expand

- PMID: 38517131
- DOI: [10.1177/00048674241235587](https://doi.org/10.1177/00048674241235587)

No abstract available

Conflict of interest statement

Declaration of Conflicting InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS

Sage Journals

[Proceed to details](#)

Cite

Share

4

Review

Lancet Healthy Longev

-
-
-

. 2024 Apr;5(4):e287-e296.

doi: 10.1016/S2666-7568(24)00007-2. Epub 2024 Mar 4.

[Prevalence of multimorbidity and polypharmacy among adults and older adults: a systematic review](#)

[Kathryn Nicholson](#)¹, [Winnie Liu](#)², [Daire Fitzpatrick](#)³, [Kate Anne Hardacre](#)⁴, [Sarah Roberts](#)⁵, [Jennifer Salerno](#)⁶, [Saverio Stranges](#)⁷, [Martin Fortin](#)⁸, [Dee Mangin](#)⁹

Affiliations expand

- PMID: 38452787
- DOI: [10.1016/S2666-7568\(24\)00007-2](https://doi.org/10.1016/S2666-7568(24)00007-2)

Free article

Abstract

Multimorbidity (multiple conditions) and polypharmacy (multiple medications) are increasingly common, yet there is a need to better understand the prevalence of co-occurrence. In this systematic review, we examined the prevalence of multimorbidity and polypharmacy among adults (≥ 18 years) and older adults (≥ 65 years) in clinical and community settings. Six electronic databases were searched, and 87 studies were retained after two levels of screening. Most studies focused on adults 65 years and older and were done in population-based community settings. Although the operational definitions of multimorbidity and polypharmacy varied across studies, consistent cut-points (two or more conditions and five or more medications) were used across most studies. In older adult samples, the prevalence of multimorbidity ranged from 4.8% to 93.1%, while the prevalence of polypharmacy ranged from 2.6% to 86.6%. High heterogeneity between studies indicates the need for more consistent reporting of specific lists of conditions and medications used in operational definitions.

Copyright © 2024 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of interests We declare no competing interests.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

Eur J Intern Med

-
-
-

. 2024 Apr;122:119-120.

doi: 10.1016/j.ejim.2024.02.018. Epub 2024 Feb 20.

Patient centered care: A multidisciplinary and holistic approach

[Giovambattista Desideri](#)¹, [Nicola Montano](#)², [Giorgio Sesti](#)³

Affiliations expand

- PMID: 38378345
- DOI: [10.1016/j.ejim.2024.02.018](https://doi.org/10.1016/j.ejim.2024.02.018)

No abstract available

Keywords: Holistic approach; Internal medicine; Multidisciplinary approach; Multimorbidity.

Conflict of interest statement

Declaration of competing interest None

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Obesity (Silver Spring)

-
-
-

. 2024 Apr;32(4):810-821.

doi: 10.1002/oby.23980. Epub 2024 Jan 28.

[Roles of general and central adiposity in cardiometabolic multimorbidity: revisiting the obesity paradox using a multistate model](#)

[Xue Xia](#)^{1,2}, [Shuohua Chen](#)³, [Xue Tian](#)^{1,2,4,5}, [Qin Xu](#)^{1,2}, [Yijun Zhang](#)^{1,2,4,5}, [Xiaoli Zhang](#)^{1,2}, [Jing Li](#)^{1,2}, [Penglian Wang](#)^{1,2}, [Shouling Wu](#)³, [Anxin Wang](#)^{1,2}

Affiliations expand

- PMID: 38282432
- DOI: [10.1002/oby.23980](https://doi.org/10.1002/oby.23980)

Abstract

Objective: The objective of this study was to evaluate the associations of general and central obesity with risk of first cardiometabolic disease (FCMD), cardiometabolic multimorbidity (CMM), and death.

Methods: A total of 86,169 participants who were CMD-free were included from the Kailuan cohort and categorized into four groups by quartiles of BMI, waist to hip ratio (WHR), weight-adjusted waist index, and waist to height ratio. We defined FCMD as the first onset of diabetes, stroke, or myocardial infarction and CMM as co-occurrence of at least two CMDs. Multistate models were used to estimate hazard ratios and 95% CI.

Results: A total of 18,461 participants developed FCMD, of whom 1476 progressed to CMM, and 10,009 died during follow-ups. Both general and central adiposity indices increased the risk of transition from baseline to FCMD and from FCMD to CMM. However, compared with the first quartile, the hazard ratio (95% CI) of the fourth quartile of BMI was 0.86 (95% CI: 0.80-0.91) for transition from health to death and 0.66 (95% CI: 0.59-0.74) from FCMD to death, whereas the corresponding estimates of WHR were 1.22 (95% CI: 1.14-1.31) and 1.16 (95% CI: 1.02-1.32), respectively.

Conclusions: Central adiposity indices such as WHR were associated with an increased risk of CMD and mortality, showing no evidence for the obesity paradox and thereby supporting a shift of public focus from BMI only to both general obesity and adiposity distribution.

© 2024 The Obesity Society.

- [38 references](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

Br J Gen Pract

-
-
-

. 2024 Mar 27;74(741):e258-e263.

doi: 10.3399/BJGP.2023.0163. Print 2024 Apr.

A primary care research agenda for multiple long-term conditions: a Delphi study

[Jonathan Stokes](#)¹, [Peter Bower](#)², [Susan M Smith](#)³, [Bruce Guthrie](#)⁴, [Thomas Blakeman](#)², [Jose M Valderas](#)⁵, [Chris Salisbury](#)⁶

Affiliations expand

- PMID: 38164536
- PMCID: [PMC10947355](#)
- DOI: [10.3399/BJGP.2023.0163](#)

Abstract

Background: Multiple long-term conditions (MLTC), also known as multimorbidity, has been identified as a priority research topic globally. Research priorities from the perspectives of patients and research funders have been described. Although most care for MLTC is delivered in primary care, the priorities of academic primary care have not been identified.

Aim: To identify and prioritise the academic primary care research agenda for MLTC.

Design and setting: This was a three-phase study with primary care MLTC researchers from the UK and other high-income countries.

Method: The study consisted of: an open-ended survey question, a face-to-face workshop to elaborate questions with researchers from the UK and Ireland, and a two-round Delphi consensus survey with international multimorbidity researchers.

Results: Twenty-five primary care researchers responded to the initial open-ended survey and generated 84 potential research questions. In the subsequent workshop discussion ($n = 18$ participants), this list was reduced to 31 questions. The longlist of 31 research questions was included in round 1 of the Delphi; 27 of the 50 (54%) round 1 invitees and 24 of the 27 (89%) round 2 invitees took part in the Delphi. Ten questions reached final consensus. These questions focused broadly on addressing the complexity of the patient group with development of new models of care for multimorbidity, and methods and data development.

Conclusion: These high-priority research questions offer funders and researchers a basis on which to build future grant calls and research plans. Addressing complexity in this research is needed to inform improvements in systems of care and for disease prevention.

Keywords: Delphi technique; chronic disease; developed countries; models of care; multimorbidity; primary health care.

© The Authors.

Conflict of interest statement

The authors have all received funding to conduct research on MLTC and are likely to seek further funding on this topic in future. They declare no other competing interests.

- [30 references](#)
- [1 figure](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS

Read this at [BJGP.org](#)

[Proceed to details](#)

Cite

Share

8

J Aging Phys Act

-
-
-

. 2023 Dec 4;32(2):213-224.

doi: 10.1123/japa.2022-0397. Print 2024 Apr 1.

[The Impact of Multimorbidity Patterns on Changes in Physical Activity and](#)

Physical Capacity Among Older Adults Participating in a Year-Long Exercise Intervention

[Tiina Savikangas](#)¹, [Taija Savolainen](#)², [Anna Tirkkonen](#)¹, [Markku Alén](#)³, [Arto J Hautala](#)⁴, [Jari A Laukkanen](#)^{5,6}, [Timo Rantalainen](#)¹, [Timo Törmäkangas](#)¹, [Sarianna Sipilä](#)⁴

Affiliations expand

- PMID: 38048763
- DOI: [10.1123/japa.2022-0397](https://doi.org/10.1123/japa.2022-0397)

Abstract

This study investigated the impact of multimorbidity patterns on physical activity and capacity outcomes over the course of a year-long exercise intervention, and on physical activity 1 year later. Participants were 314 physically inactive community-dwelling men and women aged 70-85 years, with no contraindications for exercise at baseline. Physical activity was self-reported. Physical capacity measurements included five-time chair-stand time, 6-minute walking distance, and maximal isometric knee-extension strength. The intervention included supervised and home-based strength, balance, and walking exercises. Multimorbidity patterns comprised physician-diagnosed chronic disease conditions as a predictor cluster and body mass index as a measure of obesity. Multimorbidity patterns explained 0%-12% of baseline variance and 0%-3% of the change in outcomes. The magnitude and direction of the impact of unique conditions varied by outcome, time point, and sex. Multimorbid older adults with no contraindications for exercise may benefit from multimodal physical training.

Keywords: chronic conditions; community-dwelling; physical functioning; physical performance; physical training.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



"asthma"[MeSH Terms] OR asthma[Text Word]

1

Sci Rep

-
-
-

. 2024 Apr 5;14(1):8059.

doi: 10.1038/s41598-024-58429-5.

[Asthma prevalence among United States population insights from NHANES data analysis](#)

[Sarya Swed](#)¹, [Bisher Sawaf](#)², [Feras Al-Obeidat](#)³, [Wael Hafez](#)^{4,5}, [Amine Rakab](#)⁶, [Hidar Alibrahim](#)⁷, [Mohamad Nour Nasif](#)⁷, [Baraa Alghalyini](#)⁸, [Abdul Rehman Zia Zaidi](#)⁸, [Lamees Alshareef](#)⁷, [Fadel Alqatati](#)², [Fathima Zamrath Zahir](#)², [Ashraf I Ahmed](#)⁹, [Mulham Alom](#)¹⁰, [Anas Sultan](#)¹¹, [Abdullah AlMahmoud](#)¹², [Agyad Bakkour](#)¹³, [Ivan Cherrez-Ojeda](#)^{14,15}

Affiliations expand

- PMID: 38580691
- DOI: [10.1038/s41598-024-58429-5](https://doi.org/10.1038/s41598-024-58429-5)

Abstract

Asthma is a prevalent respiratory condition that poses a substantial burden on public health in the United States. Understanding its prevalence and associated risk factors is vital for informed policymaking and public health interventions. This study aims to examine asthma prevalence and identify major risk factors in the U.S.

Population: Our study utilized NHANES data between 1999 and 2020 to investigate asthma prevalence and associated risk factors within the U.S.

Population: We analyzed a dataset of 64,222 participants, excluding those under 20 years old. We performed binary regression analysis to examine the relationship of demographic and health related covariates with the prevalence of asthma. The study found that asthma affected 8.7% of the U.S.

Population: Gender emerged as a significant factor, with 36.0% of asthma patients being male and 64.0% female ($p < 0.001$). Individuals aged 60 and older having the highest asthma prevalence at 34.0%. Non-Hispanic whites had the highest prevalence at 46.4%, followed by non-hispanic blacks at 26.0%. In contrast, Mexican Americans and other hispanic individuals had lower rates, at 9.6% and 9.0%, respectively. Females were 1.76 times more likely to have asthma than males ($p < 0.001$). Obese individuals had a 1.74 times higher likelihood of current asthma compared to underweight individuals ($p < 0.001$). Notably, both Non-Hispanic Whites and Non-Hispanic Blacks showed higher odds of current asthma compared to Mexican Americans (with adjusted odds ratios of 2.084 and 2.096, respectively, $p < 0.001$). The research findings indicate that asthma is prevalent in 8.7% of the U.S.

Population: Our study highlights that individuals who are female, have low income, are obese, and smoke have the highest likelihood of being affected by asthma. Therefore, public health policies should prioritize addressing these risk factors in their preventive strategies.

Keywords: Asthma; NHANES; U. S.

© 2024. The Author(s).

- [62 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

J Asthma

-
-
-

. 2024 Apr 5:1-26.

doi: 10.1080/02770903.2024.2338863. Online ahead of print.

Asthma management, focused on the use of oral corticosteroids: the opinions of Italian asthmatic patients

[Manuela Latorre](#)¹, [Angela Rizzi](#)², [Pierluigi Paggiaro](#)³, [Ilaria Baiardini](#)⁴, [Diego Bagnasco](#)^{5,6}, [Stefano DelGiacco](#)⁷, [Carlo Lombardi](#)⁸, [Vincenzo Patella](#)⁹, [Eleonora Nucera](#)^{2,10}, [Roberta Parente](#)¹¹, [Giovanni Paoletti](#)^{12,13}, [Laura Pini](#)¹⁴, [Erminia Ridolo](#)¹⁵, [Gianenrico Senna](#)¹⁶, [Francesco Blasi](#)^{17,18}, [Giorgio Walter Canonica](#)^{12,13}, [Arianna Aruanno](#)², [Carmen Ballacchino](#)¹⁹, [Marco Bonavia](#)²⁰, [Cecilia Calabrese](#)²¹, [Marco Caminati](#)²², [Monica Carbonara](#)²³, [Cristina Cardini](#)²⁴, [Cristiano Caruso](#)²⁵, [Luciano Cattani](#)^{23,26}, [Maria Angiola Crivellaro](#)²⁷, [Alessandra Diana](#)¹⁹, [Eugenia Durante](#)¹⁹, [Elisabetta Favero](#)²⁸, [Maria Pia Foschino Barbaro](#)²⁹, [Sandra Frateiacchi](#)^{23,30}, [Gabriella Guarnieri](#)³¹, [Alessia Lofaro](#)²³, [Francesca Losa](#)³², [Nadia Magarò](#)²³, [Francesco Menzella](#)³³, [Luisa Ricciardi](#)³⁴, [Giulia Scioscia](#)²⁹, [Elisa Testino](#)⁵, [Francesca Torracca](#)¹⁹

Affiliations expand

- PMID: 38578082
- DOI: [10.1080/02770903.2024.2338863](https://doi.org/10.1080/02770903.2024.2338863)

Abstract

Objective: Patients' perceptions of asthma symptoms, and attitudes regarding diagnosis and management, can affect their ability to reach good asthma control. The aim of the study was to explore patients' perceptions of asthma management, with focus on treatment with oral corticosteroids (OCS).

Methods: A DOXAPHARMA survey was conducted. A questionnaire with 46 multiple choice questions was completed by 50 patients with severe uncontrolled asthma, and 258 with mild-moderate controlled or partly controlled asthma. Participants were representative of Italian asthmatic patients-with medium age, long asthma duration, delayed diagnosis, poor asthma control, and frequent exacerbations.

Results: Many asthmatics reported inadequate pharmacologic treatment. The majority but not all patients regularly used ICS/LABA. Oral treatment was common, mainly with OCS, particularly in severe asthmatics. One-fourth of patients did not regularly use inhaled therapy, and adherence was poor, resulting in frequent OCS use to treat exacerbations, which were common in mild-moderate cases. Patients were fairly satisfied with asthma therapies, but many had concerns about long-term corticosteroid use. Patients complained about poor management of comorbidities associated with asthma and OCS use, but were generally satisfied with their patient/doctor relationships. Many patients failed to achieve

optimal health-related quality of life (HRQoL), mainly those with severe asthma who used OCS treatment and emphasized how OCS therapy impacted QoL.

Conclusions: The survey results confirmed many problems related to mild-moderate and severe asthma management in Italy and highlighted the overuse of OCS rather than more effective and safe treatments, which had strong negative effects on HRQoL.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Comment

Science

-
-
-

. 2024 Apr 5;384(6691):30-31.

doi: 10.1126/science.ado4514. Epub 2024 Apr 4.

[Epithelial cells crowded out in asthma](#)

[Jeffrey M Drazen](#)¹, [Jeffrey J Fredberg](#)¹

Affiliations expand

- PMID: 38574157
- DOI: [10.1126/science.ado4514](https://doi.org/10.1126/science.ado4514)

Abstract

Bronchoconstriction causes epithelial cell extrusion that promotes airway inflammation.

Comment on

- [Bronchoconstriction damages airway epithelia by crowding-induced excess cell extrusion.](#)

Bagley DC, Russell T, Ortiz-Zapater E, Stinson S, Fox K, Redd PF, Joseph M, Deering-Rice C, Reilly C, Parsons M, Brightling C, Rosenblatt J. *Science*. 2024 Apr 5;384(6691):66-73. doi: 10.1126/science.adk2758. Epub 2024 Apr 4. PMID: 38574138

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

Science

-
-
-

. 2024 Apr 5;384(6691):66-73.

doi: 10.1126/science.adk2758. Epub 2024 Apr 4.

[Bronchoconstriction damages airway epithelia by crowding-induced excess cell extrusion](#)

[Dustin C Bagley](#)¹, [Tobias Russell](#)^{#1}, [Elena Ortiz-Zapater](#)^{#2}, [Sally Stinson](#)³, [Kristina Fox](#)⁴, [Polly F Redd](#)⁵, [Merry Joseph](#)⁶, [Cassandra Deering-Rice](#)⁷, [Christopher Reilly](#)⁷, [Maddy Parsons](#)¹, [Christopher Brightling](#)³, [Jody Rosenblatt](#)^{1,8}

Affiliations [expand](#)

- PMID: 38574138

- DOI: [10.1126/science.adk2758](https://doi.org/10.1126/science.adk2758)

Abstract

Asthma is deemed an inflammatory disease, yet the defining diagnostic feature is mechanical bronchoconstriction. We previously discovered a conserved process called cell extrusion that drives homeostatic epithelial cell death when cells become too crowded. In this work, we show that the pathological crowding of a bronchoconstrictive attack causes so much epithelial cell extrusion that it damages the airways, resulting in inflammation and mucus secretion in both mice and humans. Although relaxing the airways with the rescue treatment albuterol did not affect these responses, inhibiting live cell extrusion signaling during bronchoconstriction prevented all these features. Our findings show that bronchoconstriction causes epithelial damage and inflammation by excess crowding-induced cell extrusion and suggest that blocking epithelial extrusion, instead of the ensuing downstream inflammation, could prevent the feed-forward asthma inflammatory cycle.

Comment in

- [Epithelial cells crowded out in asthma.](#)
Drazen JM, Fredberg JJ. *Science*. 2024 Apr 5;384(6691):30-31. doi:
10.1126/science.ado4514. Epub 2024 Apr 4. PMID: 38574157

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

J Asthma

-
-
-

. 2024 Apr 5:1-10.

doi: 10.1080/02770903.2024.2333473. Online ahead of print.

Do early-life allergic sensitization and respiratory infection interact to increase asthma risk?

[Vikas Wadhwa](#)¹, [Danielle Wurzel](#)², [Shyamali C Dharmage](#)¹, [Michael J Abramson](#)³, [Caroline Lodge](#)¹, [Melissa Russell](#)¹

Affiliations expand

- PMID: 38551488
- DOI: [10.1080/02770903.2024.2333473](https://doi.org/10.1080/02770903.2024.2333473)

Abstract

Objective: The 'two-hit' hypothesis theorizes that early life allergic sensitization and respiratory infection interact to increase asthma risk.

Methods: We sought to determine in a high allergy risk birth cohort whether interactions between early life allergic sensitization and respiratory infection were associated with increased risk for asthma at ages 6-7 years and 18 years. Allergic sensitization was assessed at 6, 12, and 24 months by skin prick testing to 3 food and 3 aeroallergens. Respiratory infection was defined as reported "cough, rattle, or wheeze" and assessed 4-weekly for 15 months, at 18 months, and age 2 years. Regression analysis was undertaken with parent-reported asthma at age 6-7 years and doctor diagnosed asthma at 18 years as distinct outcomes. Interactions between allergic sensitization and respiratory infection were explored with adjustment made for potential confounders.

Results: Odds of asthma were higher in sensitized compared to nonsensitized children at age 6-7 years (OR = 14.46; 95% CI 3.99-52.4), There was no evidence for interactions between allergic sensitization and early life respiratory infection, with a greater frequency of respiratory infection up to 2 years of age associated with increased odds for asthma at age 6-7 years in both sensitized (OR = 1.13; 95% CI 1.02-1.25, $n = 199$) and nonsensitized children (OR = 1.31; 1.11-1.53, $n = 211$) (p interaction = 0.089). At age 18 years, these associations were weaker.

Conclusions: Our findings do not support 'two-hit' interactions between early life allergic sensitization and respiratory infection on asthma risk. Both early life respiratory infections and allergic sensitization were risk factors and children with either should be monitored closely for development of asthma.

Keywords: Allergic sensitization; asthma; cohort study; interaction; viral respiratory infection.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Editorial

Eur Respir J

-
-
-

. 2024 Apr 4;63(4):2302308.

doi: 10.1183/13993003.02308-2023. Print 2024 Apr.

[As-needed ICS/formoterol or as-needed SABA in mild asthma?](#)

[Jerry A Krishnan](#)¹, [Roland Buhl](#)²

Affiliations expand

- PMID: 38575166
- DOI: [10.1183/13993003.02308-2023](https://doi.org/10.1183/13993003.02308-2023)

No abstract available

Conflict of interest statement

Conflict of interest: J.A. Krishnan reports research grants from US Patient Centered Outcomes Research Institute, American Lung Association, National Institutes of Health and COPD Foundation, consulting fees from AstraZeneca, CereVu Medical, BData, Inc. and American Board of Internal Medicine, payment or honoraria for lectures, presentations, manuscript writing or educational events from University of Chicago and American Academy of Asthma, Allergy, and Immunology, support for attending meetings and/or travel from National Institutes of Health, and participation in an observational safety monitoring board for National Institutes of Health; J.A. Krishnan is a member of the Board of Directors (unpaid) of the Respiratory Health Association and the Global Initiative for Asthma, and is a member of Medical and Scientific Advisory Committee (unpaid) for the COPD Foundation. R. Buhl reports research grants from Boehringer Ingelheim, GlaxoSmithKline, Novartis and Roche, payment or honoraria for lectures, presentations, manuscript writing or educational events from AstraZeneca, Berlin-Chemie, Boehringer Ingelheim, Chiesi, Cipla, GlaxoSmithKline, Novartis, Sanofi, Roche and Teva, and participation on a data safety monitoring board or advisory board for AstraZeneca, Berlin-Chemie, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Novartis, Sanofi and Roche; R. Buhl is a member of the GINA Science Committee (unpaid).

Comment on

- [European Respiratory Society short guidelines for the use of as-needed ICS/formoterol in mild asthma.](#)

Papi A, Ferreira DS, Agache I, Baraldi E, Beasley R, Brusselle G, Coleman C, Gaga M, Gotera Rivera CM, Melén E, Pavord ID, Peñate Gómez D, Schuermans D, Spanevello A, Tonia T, Schleich F. *Eur Respir J.* 2023 Oct 12;62(4):2300047. doi: 10.1183/13993003.00047-2023. Print 2023 Oct. PMID: 37678955

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



Full text at
ersjournals.com

UNIMORE

[Proceed to details](#)

Cite

Share

7

[Comment](#)

Eur Respir J



. 2024 Apr 4;63(4):2400395.

doi: 10.1183/13993003.00395-2024. Print 2024 Apr.

Response from the authors: As-needed ICS/formoterol or as-needed SABA in mild asthma?

[Alberto Papi](#)^{1,2}, [Diogenes S Ferreira](#)^{3,2}, [Thomy Tonia](#)⁴, [Florence Schleich](#)^{5,6,2}

Affiliations expand

- PMID: 38575164
- DOI: [10.1183/13993003.00395-2024](https://doi.org/10.1183/13993003.00395-2024)

No abstract available

Conflict of interest statement

Conflicts of interest: A. Papi has received grants for research from Chiesi, AstraZeneca, GSK and Sanofi, consulting fees or advisory board fees from Chiesi, AstraZeneca, GSK, Mundipharma, Novartis, Edmond, Sanofi, Avillion, IQVIA, Elpen Pharmaceuticals, Roche, Dompè, Galvanize and MSD, and lecture fees from Chiesi, AstraZeneca, GSK, Menarini, Mundipharma, Sanofi, MSD, Novartis and Zambon. F. Schleich has received grants from GSK, AstraZeneca and Chiesi, fees from GSK, AstraZeneca, Chiesi and TEVA, and participates on data safety monitoring boards/advisory boards for GSK and AstraZeneca. T. Tonia acts as ERS methodologist. D.S. Ferreira has no potential conflicts of interest to disclose.

Comment on

- [European Respiratory Society short guidelines for the use of as-needed ICS/formoterol in mild asthma.](#)
Papi A, Ferreira DS, Agache I, Baraldi E, Beasley R, Brusselle G, Coleman C, Gaga M, Gotera Rivera CM, Melén E, Pavord ID, Peñate Gómez D, Schuermans D, Spanevello

A, Tonia T, Schleich F. Eur Respir J. 2023 Oct 12;62(4):2300047. doi: 10.1183/13993003.00047-2023. Print 2023 Oct. PMID: 37678955

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



Full text at
ersjournals.com



[Proceed to details](#)

Cite

Share

8

JMIR Hum Factors

-
-
-

. 2024 Apr 4:11:e54386.

doi: 10.2196/54386.

[The Asthma App as a New Way to Promote Responsible Short-Acting Beta2-Agonist Use in People With Asthma: Results of a Mixed Methods Pilot Study](#)

[Liselot N van den Berg](#)^{1,2}, [Cynthia Hallensleben](#)^{1,2}, [Lisa Ae Vlug](#)^{1,2}, [Niels H Chavannes](#)^{1,2}, [Anke Versluis](#)^{1,2}

Affiliations [expand](#)

- PMID: 38574348

- DOI: [10.2196/54386](https://doi.org/10.2196/54386)

Free article

Abstract

Background: Approximately 262 million people worldwide are affected by asthma, and the overuse of reliever medication—specifically, short-acting beta₂-agonist (SABA) overuse—is common. This can lead to adverse health effects. A smartphone app, the Asthma app, was developed via a participatory design to help patients gain more insight into their SABA use through monitoring and psychoeducation.

Objective: This pilot study aims to evaluate the feasibility and usability of the app. The preliminary effects of using the app after 3 months on decreasing asthma symptoms and improving quality of life were examined.

Methods: A mixed methods study design was used. Quantitative data were collected using the app. Asthma symptoms (measured using the Control of Allergic Rhinitis and Asthma Test) and the triggers of these symptoms were collected weekly. Quality of life (36-Item Short-Form Health Survey) was assessed at baseline and after 3, 6, and 12 months. User experience (System Usability Scale) was measured at all time points, except for baseline. Furthermore, objective user data were collected, and qualitative interviews, focusing on feasibility and usability, were organized. The interview protocol was based on the Unified Theory of Acceptance and Use of Technology framework. Qualitative data were analyzed using the Framework Method.

Results: The baseline questionnaire was completed by 373 participants. The majority were female (309/373, 82.8%), with a mean age of 46 (SD 15) years, and used, on average, 10 SABA inhalations per week. App usability was rated as good: 82.3 (SD 13.2; N=44) at 3 months. The Control of Allergic Rhinitis and Asthma Test score significantly improved at 3 months (18.5) compared with baseline (14.8; $\beta=.189$; SE 0.048; $P<.001$); however, the obtained score still indicated uncontrolled asthma. At 3 months, there was no significant difference in the quality of life. Owing to the high dropout rate, insufficient data were collected at 6 and 12 months and were, therefore, not further examined. User data showed that 335 users opened the app (250/335, 74.6%, were returning visitors), with an average session time of 1 minute, and SABA registration was most often used (7506/13,081, 57.38%). Qualitative data (from a total of 4 participants; n=2, 50% female) showed that the participants found the app acceptable and clear. Three participants stated that gaining insight into asthma and its triggers was helpful. Two participants no longer used the app because they perceived their asthma as controlled and, therefore, did not use SABA often or only used it regularly based on the advice of the pulmonologist.

Conclusions: The initial findings regarding the app's feasibility and usability are encouraging. However, the notable dropout rate underscores the need for a cautious interpretation of the results. Subsequent studies, particularly those focusing on

implementation, should explore the potential integration of the app into standard treatment practices.

Keywords: SABA overuse; app; asthma; eHealth; feasibility; mobile phone; short-acting beta2-agonist; usability.

©Liselot N van den Berg, Cynthia Hallensleben, Lisa AE Vlug, Niels H Chavannes, Anke Versluis. Originally published in JMIR Human Factors (<https://humanfactors.jmir.org>), 04.04.2024.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

J Asthma

-
-
-

. 2024 Apr 4:1-4.

doi: 10.1080/02770903.2024.2335367. Online ahead of print.

[The impact of insomnia and depression on asthma control](#)

[Sarah L Rhoads](#)¹, [Jack Edinger](#)^{2,3}, [Aastha Khatiwada](#)⁴, [Joy Zimmer](#)^{2,3}, [Pearlanne Zelarney](#)^{2,3}, [Michael E Wechsler](#)^{2,3}

Affiliations expand

- PMID: 38526345
- DOI: [10.1080/02770903.2024.2335367](https://doi.org/10.1080/02770903.2024.2335367)

Abstract

Background: Poor sleep quality is often reported by individuals with asthma, particularly by those who have poor asthma control overall. However, there is little understanding of how underlying sleep disorders such as insomnia may impact asthma control. Furthermore, given the frequent overlap of depression and insomnia, the incremental impact of mood disorders and insomnia on asthma control remains unclear.

Methods: We conducted a retrospective analysis of patients at a large asthma center to further elucidate connections between these disease processes. Asthma patients with and without a diagnosis of insomnia were matched by age, sex, Charlson comorbidity index, and biologic therapy. We evaluated the presence of concurrent obstructive sleep disorder, mood disorders, exacerbation frequency, and asthma control test (ACT) scores.

Results: From a cohort of 659 patients with an asthma diagnosis, 89 subjects with insomnia (13.5%) were matched 1:1 to patients without insomnia. Compared to those without insomnia, patients with insomnia were more likely to have a concurrent diagnosis of obstructive sleep apnea (57.3% vs. 18%, $p < 0.001$) and to have a diagnosis of depression or anxiety (68.5% vs. 11.4%, $p < 0.001$). Among insomnia patients, there was an average of 0.93 asthma exacerbations per year, compared to 0.59 exacerbations per year for those without insomnia ($p = 0.039$).

Conclusion: Our data reveal a considerable interaction between insomnia, depression, and obstructive sleep apnea in individuals with asthma. The increased exacerbation rate suggests that underlying sleep and mood disorders negatively affect asthma control.

Keywords: Asthma; asthma control; insomnia; mood disorders; quality of life; sleep apnea.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

J Asthma

-
-
-

. 2024 Apr 4:1-9.

Efficacy and safety of Once-Daily Vilanterol/Fluticasone furoate MDI in persistent asthma: Phase 3 OD-INHALE Study

[Avdhesh Kumar¹](#), [Manish Kumar Jain²](#), [Vijaykumar Bhagwan Barge³](#), [Raghumanda Sunil Kumar⁴](#), [Neeraj Gupta⁵](#), [Harendra Yadav⁶](#), [Amitava Pal⁷](#), [Vivek Eknath Redkar⁸](#), [Asish Mondal⁹](#), [Rahul Kumar Rathore¹⁰](#), [Pavankumar Daultani¹¹](#), [Ashok Jaiswal¹²](#), [Ravi T Mehta¹³](#)

Affiliations expand

- PMID: 38488853
- DOI: [10.1080/02770903.2024.2330485](https://doi.org/10.1080/02770903.2024.2330485)

Abstract

Introduction: Once-daily inhalers have been shown to improve adherence leading to lesser discontinuation compared to twice- or thrice-daily inhalers in management of asthma. Combination of Vilanterol and Fluticasone Furoate (VI/FF) is approved for management of asthma and COPD and is available as a dry powder inhaler. Pressurized-Metered Dose Inhalers (pMDIs) offer ease-of-use and therapy alternatives for patients with low inspiratory flow. This study assessed the efficacy and safety of a new once-daily pMDI containing VI/FF in individuals diagnosed with persistent asthma.

Methods: This phase 3, double-blind, randomized controlled study assessed the non-inferiority of VI/FF (12.5 mcg/50 mcg & 12.5 mcg/100 mcg; 2 puffs once-daily) over Formoterol Fumarate and Fluticasone Propionate (FOR/FP, 6 mcg/125 mcg & 6 mcg/250 mcg; 2 puffs twice-daily) in patients with persistent asthma. Primary outcome was change from baseline in trough FEV1 at the end of study (12 weeks). Adverse events and number of exacerbations were used to evaluate safety.

Results: A total of 330 patients were randomized into VI/FF (165) and FOR/FP (165). Trough FEV1 significantly improved in both the groups at week 12, with a mean difference (VI/FF minus FOR/FP) being 54.75 mL (95% CI, 8.42-101.08 mL, $p = 0.02$). The low dose VI/FF had similar efficacy to that of low dose FOR/FP and high dose VI/FF had similar efficacy to high dose FOR/FP. No serious adverse events were reported during the study.

Conclusion: Once daily VI/FF pMDI was non-inferior to twice daily FOR/FP pMDI in patients with persistent asthma.

Keywords: Vilanterol; asthma; fluticasone furoate; fluticasone propionate; formoterol; once-daily inhalers; pMDI.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Review

Eur Respir J



. 2024 Apr 4;63(4):2301397.

doi: 10.1183/13993003.01397-2023. Print 2024 Apr.

[The airway epithelium: an orchestrator of inflammation, a key structural barrier and a therapeutic target in severe asthma](#)

[Richard J Russell](#)¹, [Louis-Philippe Boulet](#)², [Christopher E Brightling](#)³, [Ian D Pavord](#)⁴, [Celeste Porsbjerg](#)⁵, [Del Dorscheid](#)⁶, [Asger Sverrild](#)⁵

Affiliations expand

- PMID: 38453256

- PMID: [PMC10991852](#)
- DOI: [10.1183/13993003.01397-2023](#)

Abstract

Asthma is a disease of heterogeneous pathology, typically characterised by excessive inflammatory and bronchoconstrictor responses to the environment. The clinical expression of the disease is a consequence of the interaction between environmental factors and host factors over time, including genetic susceptibility, immune dysregulation and airway remodelling. As a critical interface between the host and the environment, the airway epithelium plays an important role in maintaining homeostasis in the face of environmental challenges. Disruption of epithelial integrity is a key factor contributing to multiple processes underlying asthma pathology. In this review, we first discuss the unmet need in asthma management and provide an overview of the structure and function of the airway epithelium. We then focus on key pathophysiological changes that occur in the airway epithelium, including epithelial barrier disruption, immune hyperreactivity, remodelling, mucus hypersecretion and mucus plugging, highlighting how these processes manifest clinically and how they might be targeted by current and novel therapeutics.

Copyright ©The authors 2024.

Conflict of interest statement

Conflict of interest: R.J. Russell has received support for conference registration fees and expenses from Chiesi. L-P. Boulet has received grants and/or consultancy fees from Amgen, AstraZeneca, BioHaven, Cipla, Covis, GSK, Merck, Novartis, Sanofi-Regeneron and Teva Pharmaceuticals. C.E. Brightling has received grants and consultancy fees from 4D Pharma, AstraZeneca, Chiesi, Genentech, GSK, Mologic, Novartis, Regeneron Pharmaceuticals, Roche and Sanofi. I.D. Pavord has received speaker fees from Aerocrine AB, Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Novartis, Regeneron Pharmaceuticals, Sanofi and Teva Pharmaceuticals, payments for organisation of educational events from AstraZeneca, GSK, Regeneron Pharmaceuticals, Sanofi and Teva Pharmaceuticals, consultancy fees from Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, Circassia, Dey Pharma, Genentech, GSK, Knopp Biosciences, Merck, MSD, Napp Pharmaceuticals, Novartis, Regeneron Pharmaceuticals, RespiVert, Sanofi, Schering-Plough and Teva Pharmaceuticals, international scientific meeting sponsorship from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Napp Pharmaceuticals, Regeneron Pharmaceuticals, Sanofi and Teva Pharmaceuticals, and a research grant from Chiesi. C. Porsbjerg has received grants and consultancy fees from ALK-Abelló, AstraZeneca, Chiesi, GSK, Novartis, Sanofi and Teva Pharmaceuticals. D. Dorscheid has received grants and clinical trial support from AstraZeneca, British Columbia Lung Association, Canadian Institutes of Health Research, Michael Smith Foundation for Health Research, Regeneron Pharmaceuticals,

Sanofi and Teva Pharmaceuticals, and speaking and consultancy fees, travel grants, unrestricted project grants and writing fees from AstraZeneca, GSK, Novartis Canada, Regeneron Pharmaceuticals, Sanofi and Valeo Pharma. A. Sverrild has received grants and consultancy fees from Amgen, AstraZeneca, Chiesi, GSK and Sanofi.

- [224 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

12

Biochem Cell Biol

-
-
-

. 2024 Apr 3.

doi: 10.1139/bcb-2023-0228. Online ahead of print.

[Cell-in-cell-mediated intercellular communication exacerbates the pro-inflammatory progression in asthma](#)

[Shan Wang](#)¹, [Bowen Liu](#)¹, [Huiru He](#)¹, [Jiahao Huang](#)¹, [Fangping He](#)¹, [Ying He](#)¹, [Ailin Tao](#)¹

Affiliations [expand](#)

- PMID: 38567768

- DOI: [10.1139/bcb-2023-0228](https://doi.org/10.1139/bcb-2023-0228)

Abstract

Cell-in-cell (CIC) structures have been suggested to mediate intracellular substance transport between cells and have been found widely in inflammatory lung tissue of asthma. The aim of this study was to investigate the significance of CIC structures in inflammatory progress of asthma. CIC structures and related inflammatory pathways were analyzed in asthmatic lung tissue and normal lung tissue of mouse model. In vitro, the activation of inflammatory pathways by CIC-mediated intercellular communication was analyzed by RNA-Seq and verified by Western blotting and immunofluorescence. Results showed that CIC structures of lymphocytes and alveolar epithelial cells in asthmatic lung tissue mediated intercellular substance (such as mitochondria) transfer and promoted pro-inflammation in two phases. At early phase, internal lymphocytes triggered inflammasome-dependent pro-inflammation and cell death of itself. Then, degraded lymphocytes released cellular contents such as mitochondria inside alveolar epithelial cells, further activated multi-pattern-recognition receptors and NF-kappa B signaling pathways of alveolar epithelial cells, and thereby amplified pro-inflammatory response in asthma. Our work supplements the mechanism of asthma pro-inflammation progression from the perspective of CIC structure of lymphocytes and alveolar epithelial cells, and provides a new idea for anti-inflammatory therapy of asthma.

Keywords: asthma; cell-in-cell; inflammasome; mitochondria transfer; pro-inflammation.

Conflict of interest statement

The authors declare that they do not have any competing financial interests in relation to the work described. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

FULL TEXT LINKS



full text
ARTICLE



[Proceed to details](#)

Cite

Share

13

[Editorial](#)

Elife



. 2024 Apr 3:13:e97031.

doi: 10.7554/eLife.97031.

Investigating the role of vitamin D in asthma

[Siddhant Sharma](#)¹, [Mayank Garg](#)^{2,3}

Affiliations expand

- PMID: 38567741
- PMCID: [PMC10990483](#)
- DOI: [10.7554/eLife.97031](#)

Abstract

Results in mice suggest that vitamin D reduces the symptoms of asthma by controlling an immune response that leads to inflammation of the airways.

Keywords: Asthma; Th2 immune response; genetics; genomics; human; immunology; inflammation; mouse; vitamin D receptor.

© 2024, Sharma and Garg.

Conflict of interest statement

SS, MG No competing interests declared

Comment on

- doi: [10.7554/eLife.89270](#)
- [11 references](#)

- [1 figure](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

14

Curr Opin Allergy Clin Immunol

-
-
-

. 2024 Apr 2.

doi: 10.1097/ACI.0000000000000987. Online ahead of print.

Biological treatments in childhood asthma

[Antonio Nieto-García¹](#), [María Nieto-Cid²](#), [Ángel Mazón-Ramos³](#)

Affiliations [expand](#)

- PMID: 38567842
- DOI: [10.1097/ACI.0000000000000987](https://doi.org/10.1097/ACI.0000000000000987)

Abstract

Purpose of review: The aim is to update the information currently available for the use of biologics in severe asthma in children, in order to facilitate their prescription as far as possible.

Recent findings: The appearance of biologics for the treatment of severe asthma has meant a revolutionary change in the therapeutic approach to this disease. Currently, five biologics have been approved for severe asthma in children and/or adolescents by the regulatory agencies: omalizumab, mepolizumab, benralizumab, dupilumab and tezepelumab. But despite their positive results in terms of efficacy, there are still relevant points of debate that should induce caution when selecting the most appropriate biologic in a child with severe asthma. Indeed, safety is essential and, for several of the existing treatments, the availability of medium-term to long-term data in this regard is scarce.

Summary: The use of biologics can facilitate the therapeutic paradigm shift from pleiotropic treatments to personalized medicine. However, the choice of the most appropriate biologics remains a pending issue. On the other hand, to the extent that several of the biologics have been available for a relatively short time, the most robust evidence in terms of efficacy and safety in children is that of omalizumab.

Copyright © 2024 Wolters Kluwer Health, Inc. All rights reserved.

- [64 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

15

Sci Rep

-
-
-

. 2024 Apr 2;14(1):7743.

doi: 10.1038/s41598-024-58430-y.

[Patients with unmet social needs are at higher risks of developing severe long](#)

COVID-19 symptoms and neuropsychiatric sequela

[Anna Eligulashvili](#)^{#1}, [Megan Darrell](#)^{#1}, [Moshe Gordon](#)¹, [William Jerome](#)¹, [Kevin P Fiori](#)², [Seth Congdon](#)³, [Tim Q Duong](#)⁴

Affiliations expand

- PMID: 38565574
- PMCID: [PMC10987523](#)
- DOI: [10.1038/s41598-024-58430-y](#)

Abstract

This study investigated long COVID of patients in the Montefiore Health System COVID-19 (CORE) Clinics in the Bronx with an emphasis on identifying health related social needs (HRSNs). We analyzed a cohort of 643 CORE patients (6/26/2020-2/24/2023) and 52,089 non-CORE COVID-19 patients. Outcomes included symptoms, physical, emotional, and cognitive function test scores obtained at least three months post-infection. Socioeconomic variables included median incomes, insurance status, and HRSNs. The CORE cohort was older age (53.38 ± 14.50 vs. 45.91 ± 23.79 years old, $p < 0.001$), more female (72.47% vs. 56.86%, $p < 0.001$), had higher prevalence of hypertension (45.88% vs. 23.28%, $p < 0.001$), diabetes (22.86% vs. 13.83%, $p < 0.001$), COPD (7.15% vs. 2.28%, $p < 0.001$), asthma (25.51% vs. 12.66%, $p < 0.001$), lower incomes (53.81% vs. 43.67%, 1st quintile, $p < 0.001$), and more unmet social needs (29.81% vs. 18.49%, $p < 0.001$) compared to non-CORE COVID-19 survivors. CORE patients reported a wide range of severe long-COVID symptoms. CORE patients with unmet HRSNs experienced more severe symptoms, worse ESAS-r scores (tiredness, wellbeing, shortness of breath, and pain), PHQ-9 scores (12.5 (6, 17.75) vs. 7 (2, 12), $p < 0.001$), and GAD-7 scores (8.5 (3, 15) vs. 4 (0, 9), $p < 0.001$) compared to CORE patients without. Patients with unmet HRSNs experienced worse long-COVID outcomes compared to those without.

Keywords: Covid symptoms; Fatigue; Long covid; PASC; Shortness of breath.

© 2024. The Author(s).

Conflict of interest statement

The authors declare no competing interests.

- [50 references](#)
- [1 figure](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS

nature portfolio 

[Proceed to details](#)

Cite

Share

16

Int Arch Allergy Immunol

-
-
-

. 2024 Apr 2:1-10.

doi: 10.1159/000538126. Online ahead of print.

[Involvement of Muscarinic M₃ Receptor in the Development of M₂ Macrophages in Allergic Inflammation](#)

[Megumi Jinno](#)¹, [Shin Ohta](#)¹, [Hatsuko Mikuni](#)¹, [Tomoki Uno](#)¹, [Yoshitaka Uchida](#)¹, [Ryo Manabe](#)¹, [Yoshito Miyata](#)¹, [Tetsuya Homma](#)¹, [Yoshio Watanabe](#)¹, [Sojiro Kusumoto](#)¹, [Shintaro Suzuki](#)¹, [Akihiko Tanaka](#)¹, [Hironori Sagara](#)¹

Affiliations expand

- PMID: 38565078
- DOI: [10.1159/000538126](https://doi.org/10.1159/000538126)

Abstract

Introduction: The muscarinic M3 receptor antagonist, tiotropium, has a bronchodilatory effect on asthma patients. Additionally, tiotropium inhibits allergic airway inflammation and remodeling in a murine asthma model. However, the underlying mechanisms of this M3 receptor antagonist remain unclear. Therefore, we investigated the effect of muscarinic M3 receptor blockage on M2 macrophage development during allergic airway inflammation.

Methods: BALB/c mice were sensitized and challenged with ovalbumin to develop a murine model of allergic airway inflammation mimicking human atopic asthma. During the challenge phase, mice were treated with or without tiotropium. Lung cells were isolated 24 h after the last treatment and gated using CD68-positive cells. Relm- α and Arginase-1 (Arg1) (M2 macrophage markers) expression was determined by flow cytometry. Mouse bone marrow mononuclear cell-derived macrophages (mBMMacs) and human peripheral blood mononuclear cells (PBMCs)-derived macrophages were stimulated with IL-4 and treated with a muscarinic M3 receptor antagonist in vitro.

Results: The total cells, eosinophils, and IL-5 and IL-13 levels in BAL fluids were markedly decreased in the asthma group treated with tiotropium compared to that in the untreated asthma group. The Relm- α and Arg1 expression in macrophages was reduced considerably in the asthma group treated with tiotropium compared to that in the untreated asthma group, suggesting that the development of M2 macrophages was inhibited by muscarinic M3 receptor blockage. Additionally, muscarinic M3 receptor blockage in vitro significantly inhibited M2 macrophage development in both mBMMacs- and PBMCs-derived macrophages.

Conclusions: Muscarinic M3 receptor blockage inhibits M2 macrophage development and prevents allergic airway inflammation. Moreover, muscarinic M3 receptors might be involved in the differentiation of immature macrophages into M2 macrophages.

Keywords: Allergic inflammation; Asthma; Macrophages; Muscarinic receptor; Tiotropium.

© 2024 S. Karger AG, Basel.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



. 2024 Apr 2.

doi: 10.1111/all.16103. Online ahead of print.

EAACI guidelines on environmental science for allergy and asthma: The impact of short-term exposure to outdoor air pollutants on asthma-related outcomes and recommendations for mitigation measures

[Ioana Agache¹](#), [Isabella Annesi-Maesano²](#), [Lorenzo Cecchi³](#), [Benedetta Biagioni⁴](#), [Kian Fan Chung⁵](#), [Bernard Clot⁶](#), [Gennaro D'Amato^{7,8}](#), [Athanasios Damialis⁹](#), [Stefano Del Giacco¹⁰](#), [Javier Dominguez-Ortega¹¹](#), [Carmen Galàn¹²](#), [Stefanie Gilles¹³](#), [Stephen Holgate¹⁴](#), [Mohamed Jeebhay¹⁵](#), [Stelios Kazadzis¹⁶](#), [Kari Nadeau¹⁷](#), [Nikolaos Papadopoulos^{18,19}](#), [Santiago Quirce¹¹](#), [Joaquin Sastre²⁰](#), [Fiona Tummon^{7,8}](#), [Claudia Traidl-Hoffmann^{21,22,23}](#), [Jolanta Walusiak-Skorupa²⁴](#), [Marek Jutel²⁵](#), [Cezmi A Akdis²⁶](#)

Affiliations expand

- PMID: 38563695
- DOI: [10.1111/all.16103](https://doi.org/10.1111/all.16103)

Abstract

The EAACI Guidelines on the impact of short-term exposure to outdoor pollutants on asthma-related outcomes provide recommendations for prevention, patient care and mitigation in a framework supporting rational decisions for healthcare professionals and patients to individualize and improve asthma management and for policymakers and regulators as an evidence-informed reference to help setting legally binding standards and

goals for outdoor air quality at international, national and local levels. The Guideline was developed using the GRADE approach and evaluated outdoor pollutants referenced in the current Air Quality Guideline of the World Health Organization as single or mixed pollutants and outdoor pesticides. Short-term exposure to all pollutants evaluated increases the risk of asthma-related adverse outcomes, especially hospital admissions and emergency department visits (moderate certainty of evidence at specific lag days). There is limited evidence for the impact of traffic-related air pollution and outdoor pesticides exposure as well as for the interventions to reduce emissions. Due to the quality of evidence, conditional recommendations were formulated for all pollutants and for the interventions reducing outdoor air pollution. Asthma management counselled by the current EAACI guidelines can improve asthma-related outcomes but global measures for clean air are needed to achieve significant impact.

Keywords: asthma; environmental science; guidelines; outdoor pollution.

© 2024 European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [192 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

18

Ann Intern Med

-
-
-

. 2024 Apr 2.

doi: 10.7326/J24-0014. Online ahead of print.

[In severe eosinophilic asthma controlled with benralizumab, tapering](#)

high-dose ICS reduced dose while maintaining control

[Matthew B Stanbrook](#)¹

Affiliations expand

- PMID: 38560905
- DOI: [10.7326/J24-0014](https://doi.org/10.7326/J24-0014)

Abstract

Jackson DJ, Heaney LG, Humbert M, et al; SHAMAL Investigators. **Reduction of daily maintenance inhaled corticosteroids in patients with severe eosinophilic asthma treated with benralizumab (SHAMAL): a randomised, multicentre, open-label, phase 4 study.** *Lancet.* 2024;403:271-281. 38071986.

Conflict of interest statement

Disclosures: The commentator has reported no disclosures of interest. The form can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=J24-0014.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

19

Ann Med Surg (Lond)

-
-
-

. 2024 Feb 19;86(4):1836-1842.

Unveiling the complexity of right middle lobe syndrome: a case series highlighting the association with asthma

[Eman Shhada](#)¹, [Ali Alakbar Nahle](#)², [Hussein Hamdar](#)², [Alaa Jlailati](#)², [Ali Jawad](#)², [Zeinab Nahle](#)³, [Sawssan Ali](#)⁴

Affiliations expand

- PMID: 38576953
- PMCID: [PMC10990357](#)
- DOI: [10.1097/MS9.0000000000001848](#)

Abstract

Introduction and importance: Right middle lobe syndrome (MLS) is a rare lung disorder primarily affecting children with a history of asthma or atopy. It encompasses a range of pathological and clinical conditions, from recurrent collapses of the middle lobe to bronchiectasis. In this study, the authors present a case series featuring four individuals with MLS associated with asthma, aiming to deepen our understanding of this uncommon condition.

Case presentation: Four paediatric patients with right MLS exhibited symptoms of persistent cough, dyspnoea, and recurrent asthma exacerbations. Radiographic evaluations confirmed features consistent with right MLS, and bronchoscopy revealed mucus plugs and oedematous airways obstructing the right middle lobe bronchus. Treatment with bronchodilators, antibiotics, and corticosteroids led to symptom improvement and resolution of atelectasis.

Clinical discussion: MLS is a rare condition characterized by chronic collapse of the right middle lobe and bronchiectasis. It is challenging to diagnose MLS, but computed tomography (CT) scans provide detailed lung images for confirmation. Treatment focuses on addressing the underlying cause, such as infections or mucus obstruction. Lobectomy

may be considered in severe cases. This case series emphasizes the need for further research on MLS, as its rarity and characteristics remain unclear.

Conclusion: These cases exhibited obstructive MLS with and without asthma. Accurate diagnosis is challenging, requiring imaging techniques. MLS has clinical implications, particularly in asthma patients. Future studies should focus on understanding the aetiology of non-obstructive MLS.

Keywords: asthma; case series; paediatric; right middle lobe; right middle lobe syndrome.

Copyright © 2024 The Author(s). Published by Wolters Kluwer Health, Inc.

Conflict of interest statement

The authors declare that they have no competing interests. Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

- [25 references](#)
- [12 figures](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

20

Respir Med

-
-
-

. 2024 Apr 1:107611.

doi: 10.1016/j.rmed.2024.107611. Online ahead of print.

Benralizumab efficacy and safety in severe asthma: A randomized trial in Asia

[Kefang Lai](#)¹, [Dejun Sun](#)², [Ranran Dai](#)³, [Ronnie Samoro](#)⁴, [Hae-Sim Park](#)⁵, [Annika Åstrand](#)⁶, [David Cohen](#)⁷, [Maria Jison](#)⁷, [Vivian H Shih](#)⁸, [Viktoria Werkström](#)⁶, [Yuhui Yao](#)⁹, [Yajuan Zhang](#)⁹, [Wenying Zheng](#)¹⁰, [Nanshan Zhong](#)¹¹; [MIRACLE Study Investigators](#); [Principle investigators](#); [Albay Albert Jr](#)¹², [Bo Jianping](#)¹³, [Chen Bi](#)¹⁴, [Chen Lijun](#)¹⁵, [Chen Mei](#)¹⁶, [Chen Min](#)¹⁷, [Chen Ping](#)¹⁸, [Chen Zhimin](#)¹⁹, [Chian Chih-Feng](#)²⁰, [Cho You Sook](#)²¹, [Fu Xiuhua](#)²², [Gao Xiwen](#)²³, [Gu Wei](#)²⁴, [Han Wei](#)²⁵, [Han Zhihai](#)²⁶, [Hu Xi Wei](#)²⁷, [Huang Kewu](#)²⁸, [Huang Mao](#)²⁹, [Isidro Marie Grace Dawn](#)³⁰, [Jeong Inbeom](#)³¹, [Jiang Luning](#)³², [Jiang Mingyan](#)³³, [Jiang Shanping](#)³⁴, [Jin Meiling](#)³⁵, [Kang Jian](#)³⁶, [Kim Jin Woo](#)³⁷, [Kim Sang-Ha](#)³⁸, [Kuang Jiulong](#)³⁹, [Kuo Ping-Hung](#)⁴⁰, [Li Jie](#)⁴¹, [Li Manxiang](#)⁴², [Li Minjing](#)⁴³, [Li Ruoran](#)⁴⁴, [Li Wen](#)⁴⁵, [Li Xianhua](#)⁴⁶, [Li Yanming](#)⁴⁷, [Lim Seong Yong](#)⁴⁸, [Liu Chuanhe](#)⁴⁹, [Liu Chuntao](#)⁵⁰, [Liu Jing](#)⁵¹, [Liu Xiaoxia](#)⁵², [Lu Huiyu](#)⁵³, [Luo Zhuang](#)⁵⁴, [Ma Shengxi](#)⁵⁵, [Mao Liangping](#)⁵⁶, [Min Kyung Hoon](#)⁵⁷, [Mu Lin](#)⁵⁸, [Park Choon-Sik](#)⁵⁹, [Park Hae Sim](#)⁶⁰, [Park Hye-Kyung](#)⁶¹, [Park Jung-Won](#)⁶², [Perng Diahn-Warnq](#)⁶³, [Samoro Ronnie](#)⁴, [Shi Guochao](#)⁶⁴, [Sun Debin](#)⁶⁵, [Sun Dejun](#)², [Wang Chun-Hua](#)⁶⁶, [Wang Guangfa](#)⁶⁷, [Wang Limin](#)⁶⁸, [Wang Xuefen](#)⁶⁹, [Wang Yan](#)⁷⁰, [Wei Liping](#)⁷¹, [Wu Haihong](#)⁷², [Xiao Yi](#)⁷³, [Xiao Zuke](#)⁷⁴, [Xie Canmao](#)⁷⁵, [Xu Jin-Fu](#)⁷⁶, [Xu Xingxiang](#)⁷⁷, [Xu Xiyuan](#)⁷⁸, [Yan Jianping](#)⁷⁹, [Yang Hongzhong](#)⁸⁰, [Yoon Ho Joo](#)⁸¹, [Yu Wencheng](#)⁸², [Zhang Jin](#)⁸³, [Zhang Longju](#)⁸⁴, [Zhang Min](#)⁸⁵, [Zhang Wei](#)⁸⁶, [Zhao Jianping](#)⁸⁷, [Zhao Ziwen](#)⁸⁸, [Zhu Xiaoli](#)⁸⁹, [Zhu Yingqun](#)⁹⁰; [Other investigators](#); [AstraZeneca](#); [ClinChoice](#)

Collaborators, Affiliations expand

- PMID: 38570145
- DOI: [10.1016/j.rmed.2024.107611](https://doi.org/10.1016/j.rmed.2024.107611)

Abstract

Background: Benralizumab is indicated as add-on therapy in patients with uncontrolled, severe eosinophilic asthma; it has not yet been evaluated in a large Asian population with asthma in a clinical trial.

Objective: To evaluate the efficacy and safety of benralizumab in patients with severe asthma in Asia.

Methods: MIRACLE ([NCT03186209](#)) was a randomized, Phase 3 study in China, South Korea, and the Philippines. Patients aged 12-75 years with severe asthma receiving medium-to-high-dose inhaled corticosteroid/long-acting β_2 -agonists, stratified (2:1) by baseline blood eosinophil count (bEOS) ($\geq 300/\mu\text{L}$; $< 300/\mu\text{L}$), were randomized (1:1) to benralizumab 30 mg or placebo. Endpoints included annual asthma exacerbation rate

(AAER; primary endpoint), change from baseline at Week 48 in pre-bronchodilator (BD) forced expiratory volume in 1 second (pre-BD FEV₁) and total asthma symptom score (TASS). Safety was evaluated \leq Week 56.

Results: Of 695 patients randomized, 473 had baseline bEOS \geq 300/ μ L (benralizumab n = 236; placebo n = 237). In this population, benralizumab significantly reduced AAER by 74% (rate ratio 0.26 [95% CI 0.19, 0.36], $p < 0.0001$) and significantly improved pre-BD FEV₁ (least squares difference [LSD] 0.25 L [95% CI 0.17, 0.34], $p < 0.0001$) and TASS (LSD -0.25 [-0.45, -0.05], $p = 0.0126$) versus placebo. In patients with baseline bEOS $<$ 300/ μ L, there were numerical improvements in AAER, pre-BD FEV₁, and TASS with benralizumab versus placebo. The frequency of adverse events was similar for benralizumab (76%) and placebo (80%) in the overall population.

Conclusions: MIRACLE data reinforces the efficacy and safety of benralizumab for severe eosinophilic asthma in an Asian population, consistent with the global Phase 3 results.

Keywords: Anti-Interleukin-5 receptor; Biologics; China; Eosinophilic asthma; Exacerbations.

Copyright © 2024. Published by Elsevier Ltd.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Nanshan Zhong reports financial support was provided by AstraZeneca. Kefang Lai reports financial support was provided by AstraZeneca. Dejun Sun reports financial support was provided by AstraZeneca. Ranran Dai reports financial support was provided by AstraZeneca. Ronnie Samoro reports financial support was provided by AstraZeneca. Hae-Sim Park reports financial support was provided by AstraZeneca. Annika Astrand reports a relationship with AstraZeneca that includes: employment and equity or stocks. David Cohen reports a relationship with AstraZeneca that includes: employment and equity or stocks. Maria Jison reports a relationship with AstraZeneca that includes: employment and equity or stocks. Vivian H Shih reports a relationship with AstraZeneca that includes: employment and equity or stocks. Viktoria Werkstrom reports a relationship with AstraZeneca that includes: employment and equity or stocks. Yuhui Yao reports a relationship with AstraZeneca that includes: employment and equity or stocks. Yajuan Zhang reports a relationship with AstraZeneca that includes: employment and equity or stocks. Wenying Zheng reports a relationship with AstraZeneca that includes: employment and equity or stocks. Tanya Jandu and Helen Brereton of inScience Communications, Springer Healthcare Ltd, UK, provided medical writing support, which was funded by AstraZeneca. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

21

Mucosal Immunol

-
-
-

. 2024 Apr 1:S1933-0219(24)00028-X.

doi: 10.1016/j.mucimm.2024.03.012. Online ahead of print.

Sublingual allergen immunotherapy (SLIT) prevents house dust mite inhalant type 2 immunity through DC-mediated induction of Foxp3⁺ regulatory T cells

[Katrien Van der Borght](#)¹, [Jens Brimnes](#)², [Eline Haspeslagh](#)¹, [Stephanie Brand](#)², [Katrijn Neyt](#)¹, [Shashank Gupta](#)², [Niels Peter Hell Knudsen](#)², [Hamida Hammad](#)¹, [Peter S Andersen](#)², [Bart N Lambrecht](#)³

Affiliations expand

- PMID: 38570140
- DOI: [10.1016/j.mucimm.2024.03.012](https://doi.org/10.1016/j.mucimm.2024.03.012)

Abstract

Sublingual allergen immunotherapy (SLIT) is an emerging treatment option for allergic asthma, and a potential disease modifying strategy for asthma prevention. The key cellular

events leading to such long term tolerance remains to be fully elucidated. We administered prophylactic SLIT in a mouse model of house dust mite (HDM) driven allergic asthma. HDM extract was sublingually administered over 3 weeks followed by intratracheal sensitization and intranasal challenges with HDM. Prophylactic SLIT prevented allergic airway inflammation and hyperreactivity with a low lab-to-lab variation. The HDM specific Th2 (CD4 T helper) response was shifted by SLIT towards a regulatory and Th17 response in lung and mediastinal lymph node (MLN). By using Der p 1 specific CD4⁺ T cells (1-DER), we found that SLIT blocked 1-DER T cell recruitment to the MLN and dampened IL-4 secretion following intratracheal HDM sensitization. Sublingually administered Der p 1 protein activated 1-DER T cells in the cervical lymph node (CLN) via CCR7⁺ migratory dendritic cells (DC). DCs migrating from the oral submucosa to the CLN after SLIT induced Foxp3⁺ regulatory T cells. When mice were sensitized with HDM, prior prophylactic SLIT increased Der p 1 specific Tregs and lowered Th2 recruitment in the lung. By using Foxp3-DTR mice, Tregs were found to contribute to the immunoregulatory prophylactic effect of SLIT on type 2 immunity. These findings in a mouse model suggest that DC-mediated functional Treg induction in oral mucosa draining LNs is one of the driving mechanisms behind the disease modifying effect of prophylactic SLIT.

Copyright © 2024 The Author(s). Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

22

J Allergy Clin Immunol Pract

-
-
-

. 2024 Apr 1:S2213-2198(24)00335-0.

doi: 10.1016/j.jaip.2024.03.042. Online ahead of print.

The use of monoclonal therapy in the treatment of near-fatal asthma complicated by steroid sensitivity. A case report

[Patrick Coghlan](#), [Grace Kavanagh](#), [Aoife Broderick](#), [Shona Meagher](#), [Deborah Casey](#), [Michael Henry](#), [Paula O'Leary](#), [Desmond Murphy](#)

- PMID: 38570071
- DOI: [10.1016/j.jaip.2024.03.042](https://doi.org/10.1016/j.jaip.2024.03.042)

No abstract available

Keywords: Allergy; Biologics; Immunotherapy; Severe asthma; airways disease; intensive care; steroid: side effects.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

23

Clinical Trial

Open Forum Infect Dis

-
-
-

. 2024 Feb 23;11(4):ofae102.

doi: 10.1093/ofid/ofae102. eCollection 2024 Apr.

COVID-19 Immunologic Antiviral Therapy With Omalizumab (CIAO)-a Randomized Controlled Clinical Trial

[Michelle Le](#)¹, [Lauren Khoury](#)², [Yang Lu](#)³, [Connor Prosty](#)², [Maxime Cormier](#)⁴, [Mathew P Cheng](#)⁵, [Robert Fowler](#)⁶, [Srinivas Murthy](#)⁷, [Jennifer L Y Tsang](#)⁸, [Moshe Ben-Shoshan](#)⁹, [Elham Rahme](#)³, [Shirin Golchi](#)³, [Nandini Dendukuri](#)³, [Todd C Lee](#)⁵, [Elena Netchiporouk](#)¹

Affiliations expand

- PMID: 38560604
- PMCID: [PMC10977629](#)
- DOI: [10.1093/ofid/ofae102](#)

Abstract

Background: Omalizumab is an anti-immunoglobulin E monoclonal antibody used to treat moderate to severe chronic idiopathic urticaria, asthma, and nasal polyps. Recent research suggested that omalizumab may enhance the innate antiviral response and have anti-inflammatory properties.

Objective: We aimed to investigate the efficacy and safety of omalizumab in adults hospitalized for coronavirus disease 2019 (COVID-19) pneumonia.

Methods: This was a phase II randomized, double blind, placebo-controlled trial comparing omalizumab with placebo (in addition to standard of care) in hospitalized patients with COVID-19. The primary endpoint was the composite of mechanical ventilation and/or death at day 14. Secondary endpoints included all-cause mortality at day 28, time to clinical improvement, and duration of hospitalization.

Results: Of 41 patients recruited, 40 were randomized (20 received the study drug and 20 placebo). The median age of the patients was 74 years and 55.0% were male. Omalizumab was associated with a 92.6% posterior probability of a reduction in mechanical ventilation and death on day 14 with an adjusted odds ratio of 0.11 (95% credible interval 0.002-2.05). Omalizumab was also associated with a 75.9% posterior probability of reduced all-cause mortality on day 28 with an adjusted odds ratio of 0.49 (95% credible interval, 0.06-3.90). No statistically significant differences were found for the time to clinical improvement and

duration of hospitalization. Numerically fewer adverse events were reported in the omalizumab group and there were no drug-related serious adverse events.

Conclusions: These results suggest that omalizumab could prove protective against death and mechanical ventilation in hospitalized patients with COVID-19. This study could also support the development of a phase III trial program investigating the antiviral and anti-inflammatory effect of omalizumab for severe respiratory viral illnesses requiring hospital admission. ClinicalTrials.gov ID: [NCT04720612](https://clinicaltrials.gov/ct2/show/study/NCT04720612).

Keywords: COVID-19; SARS-CoV2; acute respiratory distress syndrome; coronavirus; omalizumab.

© The Author(s) 2024. Published by Oxford University Press on behalf of Infectious Diseases Society of America.

Conflict of interest statement

Potential conflicts of interest. M.L. reports funding support from the Canadian Institutes of Health Research (CIHR) Vanier Doctoral Scholarship. M.P.C. reports grants from the McGill Interdisciplinary Initiative in Infection and Immunity and personal fees from GEn1E Lifesciences (as a member of the scientific advisory board) and personal fees from nplex biosciences (as a member of the scientific advisory board). J.L.Y.T. reports a Physicians' Services Incorporated Foundation grant to her institution, outside the submitted work. She is cochair of the Canadian Community ICU Research Network (CCIRNet) and vice chair of the Quest Community Health Centre board of directors. S.M. reports a grant from the Health Research Foundation, Innovative Medicines Canada. M.B.S. reports salary support from Fonds de recherche du Québec—Santé and is part of the advisory Board or equivalent of: Bausch, Stallergenes, Novartis, & Sanofi. Participating or participated in a clinical trial: Novartis, Aimune, & Sanofi. T.C.L. reports salary support from Fonds de recherche du Québec—Santé. E.N. has been an Advisory Board/Speaker/Consultant and/or received Investigator Initiated Educational and/or Research funding from AbbVie Inc., Bausch Health, Beiersdorf, Boehringer Ingelheim International, Bristol Myers Squibb, Eli Lilly, Galderma SA., Janssen Inc., LEO Pharma, Medexus, Novartis Pharmaceuticals, Pfizer Inc., Sanofi Genzyme, Sun Pharmaceuticals, and UCB. All other authors report no potential conflicts.

- [38 references](#)
- [3 figures](#)

SUPPLEMENTARY INFO

Publication types, Associated dataexpand

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

24

Respir Med



. 2024 Apr-May;225:107598.

doi: 10.1016/j.rmed.2024.107598. Epub 2024 Mar 16.

Relationship of computed tomography-based measurements with symptom perception and quality of life in patients with severe asthma

[Jinyoung Jeong](#)¹, [Young-Hee Nam](#)², [Da Woon Sim](#)³, [Byung-Keun Kim](#)⁴, [Youngsoo Lee](#)⁵, [Ji-Su Shim](#)⁶, [Suh-Young Lee](#)⁷, [Min-Suk Yang](#)⁸, [Min-Hye Kim](#)⁶, [So Ri Kim](#)⁹, [Sanghun Choi](#)¹, [Sang-Heon Kim](#)¹⁰, [Young-Il Koh](#)³, [Heung-Woo Park](#)¹¹; [KoSAR investigators](#)

Affiliations expand

- PMID: 38499273
- DOI: [10.1016/j.rmed.2024.107598](https://doi.org/10.1016/j.rmed.2024.107598)

Abstract

Background: Symptom perception and quality of life (QOL) are important domains for properly managing severe asthma. This study aimed to assess the relationship between airway structural and parenchymal variables measured using chest computed tomography (CT) and subjective symptom perception and QOL in patients with severe asthma enrolled in the Korean Severe Asthma Registry.

Methods: This study used CT-based objective measurements, including airway wall thickness (WT), hydraulic diameter, functional small airway disease (fSAD), and emphysematous lung (Emph), to assess their association with subjective symptom (cough, dyspnea, wheezing, and sputum) perception measured using the visual analog scale, and QOL measured by the Severe Asthma Questionnaire (SAQ).

Results: A total of 94 patients with severe asthma were enrolled in this study. The WT and fSAD% were significantly positively associated with cough and dyspnea, respectively. For QOL, WT and Emph% showed significant negative associations with the SAQ. However, there was no significant association between lung function and symptom perception or between lung function and QOL.

Conclusion: Overall, WT, fSAD%, and Emph% measured using chest CT were associated with subjective symptom perception and QOL in patients with severe asthma. This study provides a basis for clarifying the clinical correlates of imaging-derived metrics and for understanding the mechanisms of respiratory symptom perception.

Keywords: Asthma; Cough; Dyspnea; Perception; Quality of life; Tomography scanners.

Copyright © 2024 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

25

Respir Med

-
-
-

. 2024 Apr-May;225:107583.

Exhaled breath analyses for bronchial thermoplasty in severe asthma patients

[Pieta C Wijsman](#)¹, [Annika W M Goorsenberg](#)¹, [Julia N S d'Hooghe](#)¹, [Els J M Weersink](#)¹, [Dominic W Fenn](#)¹, [Anke H Maitland van der Zee](#)¹, [Jouke T Annema](#)¹, [Paul Brinkman](#)¹, [Peter I Bonta](#)²

Affiliations [expand](#)

- PMID: 38447787
- DOI: [10.1016/j.rmed.2024.107583](https://doi.org/10.1016/j.rmed.2024.107583)

Free article

Abstract

Background: Bronchial thermoplasty (BT) is a bronchoscopic treatment for severe asthma. Although multiple trials have demonstrated clinical improvement after BT, optimal patient selection remains a challenge and the mechanism of action is incompletely understood. The aim of this study was to examine whether exhaled breath analysis can contribute to discriminate between BT-responders and non-responders at baseline and to explore pathophysiological insights of BT.

Methods: Exhaled breath was collected from patients at baseline and six months post-BT. Patients were defined as responders or non-responders based on a half point increase in asthma quality of life questionnaire scores. Gas chromatography-mass spectrometry was used for volatile organic compounds (VOCs) detection and analyses. Analytical workflow consisted of: 1) detection of VOCs that differentiate between responders and non-responders and those that differ between baseline and six months post-BT, 2) identification of VOCs of interest and 3) explore correlations between clinical biomarkers and VOCs.

Results: Data was available from 14 patients. Nonanal, 2-ethylhexanol and 3-thujol showed a significant difference in intensity between responders and non-responders at baseline ($p = 0.04$, $p = 0.01$ and $p = 0.03$, respectively). After BT, no difference was found in the compound intensity of these VOCs. A negative correlation was observed between nonanal and IgE and BALF eosinophils ($r = -0.68$, $p < 0.01$ and $r = -0.61$, $p = 0.02$ respectively) and 3-thujol with BALF neutrophils ($r = -0.54$, $p = 0.04$).

Conclusions: This explorative study identified discriminative VOCs in exhaled breath between BT responders and non-responders at baseline. Additionally, correlations were found between VOC's and inflammatory BALF cells. Once validated, these findings encourage research in breath analysis as a non-invasive easy to apply technique for identifying airway inflammatory profiles and eligibility for BT or immunotherapies in severe asthma.

Keywords: Asthma; Bronchial thermoplasty; Exhaled breath; Gas chromatography-mass spectrometry; Volatile organic compounds.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest PIB declares to have received financial support from the Netherlands LungFoundation (Grant number: 5.2.13.064JO), Stichting Astma Bestrijding (SAB): grant nr. 1018/041, The Netherlands Organization for Health Research and Development (ZonMw grant number: 90713477) and Boston Scientific Corporation during the conduct of this study. AHM reports grants from Health Holland, GSK and Boehringer Ingelheim outside the submitted work. PB reports grants from Amsterdam UMC, Vertex, Stichting Astma Bestrijding (SAB), Boehringer Ingelheim Grant, Eurostars, Horizon Europe Framework Programme (HORIZON) outside the submitted work. All other authors have no conflict of interest to disclose.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

26

Respir Med

-
-
-

. 2024 Apr-May;225:107578.

doi: 10.1016/j.rmed.2024.107578. Epub 2024 Mar 1.

Impact of biologics on lung hyperinflation in patients with severe asthma

[Mauro Maniscalco](#)¹, [Claudio Candia](#)¹, [Cecilia Calabrese](#)², [Maria D'Amato](#)³, [Maria Gabriella Matera](#)⁴, [Antonio Molino](#)³, [Mario Cazzola](#)⁵

Affiliations expand

- PMID: 38431058
- DOI: [10.1016/j.rmed.2024.107578](https://doi.org/10.1016/j.rmed.2024.107578)

Free article

Abstract

Background: In asthma, inflammation affects both the proximal and distal airways and can cause significant hyperinflation, which is thought to be a major cause of dyspnea.

Methods: This is a retrospective observational study evaluating the effect of three months of treatment with different biologic drugs (benralizumab, dupilumab and omalizumab) on pulmonary hyperinflation in a cohort of patients with severe asthma already receiving regular triple inhaled therapy. Changes in RV, RV/TLC ratio, FRC and FRC/TLC ratio were the primary efficacy measures. Secondary outcomes included FEV₁, FVC, FEV₁/FVC ratio, IC, IC/TLC ratio, asthma control test, the percentage of eosinophils in the blood and fractional F_{ENO}.

Results: Benralizumab led to significant changes ($p < 0.001$) in RV, RV/TLC, FRC, and FRC/TLC. Dupilumab demonstrated a notable reduction in RV ($p = 0.017$) and RV/TLC ($p = 0.002$), but the decreases in FRC and FRC/TLC were merely numerical and not as pronounced as those induced by benralizumab. Omalizumab's positive impact on RV ($p = 0.057$) and RV/TLC ($p = 0.085$), as well as FRC ($p = 0.202$) and FRC/TLC ($p = 0.096$), was also predominantly numerical, with a tendency towards efficacy, albeit excluding the effect on FRC. Treatment with biologics resulted in improvements in all other lung function parameters assessed and a decrease in F_{ENO} levels.

Conclusion: This study, although limited by small sample size, lack of a placebo control, and unbalanced group sizes, suggests that biological agents are effective in reducing lung hyperinflation even after a relatively short treatment.

Keywords: Biologics; Lung hyperinflation; Severe asthma.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

27

Observational Study

Allergy

-
-
-

. 2024 Apr;79(4):1042-1051.

doi: 10.1111/all.16052. Epub 2024 Mar 2.

House dust mite SCIT reduces asthma risk and significantly improves long-term rhinitis and asthma control-A RWE study

[Marek Jutel](#)^{1,2}, [Ludger Klimek](#)³, [Hartmut Richter](#)⁴, [Bernd Brüggenjürgen](#)⁵, [Christian Vogelberg](#)⁶

Affiliations expand

- PMID: 38429981
- DOI: [10.1111/all.16052](https://doi.org/10.1111/all.16052)

Abstract

Background: The German Therapy Allergen Ordinance (TAO) triggered an ongoing upheaval in the market for house dust mite (HDM) allergen immunotherapy (AIT) products. Three HDM subcutaneous AIT (SCIT) products hold approval in Germany and therefore will be available after the scheduled completion of the TAO procedure in 2026. In general, data from clinical trials on the long-term effectiveness of HDM AIT are rare. We evaluated real-world data (RWD) in a retrospective, observational cohort study based on a longitudinal claims database including 60% of all German statutory healthcare prescriptions to show the long-term effectiveness of one of these products in daily life. Aim of this analysis was to provide a per product analysis on effectiveness of mite AIT as it is demanded by international guidelines on AIT.

Methods: Subjects between 5 and 70 years receiving their first (index) prescription of SCIT with a native HDM product (SCIT group) between 2009 and 2013 were included. The exactly 3:1 matched control group received prescriptions for only symptomatic AR medication (non-AIT group); the evaluation period for up to 6 years of follow-up ended in February 2017. Study endpoints were the progression of allergic rhinitis (AR) and asthma, asthma occurrence and time to the onset of asthma after at least 2 treatment years.

Results: In total, 892 subjects (608 adults and 284 children/adolescents) were included in the SCIT group and 2676 subjects (1824 adults and 852 children/adolescents) in the non-AIT group. During the follow-up period after at least 2 years of SCIT, the number of prescriptions in the SCIT group was reduced by 62.8% ($p < .0001$) for AR medication and by 42.4% for asthma medication ($p = .0003$). New-onset asthma risk was significantly reduced in the SCIT vs non-AIT group by 27.0% ($p = .0212$). The asthma-preventive effect of SCIT occurred 15 months after start of the treatment. In the SCIT group, the time to onset of asthma was prolonged compared to the non-AIT group ($p = .0010$).

Conclusion: In this first product based RWD analysis on SCIT with a native HDM product, patients aged 5 to 70 years benefited from AIT in the long term in terms of reduced progression of AR and asthma after at least 2 years of treatment. The effects seemed to last for up to 6 years after treatment termination. A significantly reduced risk of asthma onset was observed, starting after 15 months of treatment.

Keywords: allergen immunotherapy; house dust mite; long-term effect; real-world evidence; subcutaneous immunotherapy.

© 2024 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [59 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

28

Respir Med

-
-
-

. 2024 Apr;224:107581.

doi: 10.1016/j.rmed.2024.107581. Epub 2024 Feb 28.

[No remission in 60% of those with childhood-onset asthma - A population-based cohort followed from 8 to 28 years of age](#)

[Linnéa Almqvist¹](#), [Martin Andersson²](#), [Helena Backman²](#), [Eva Rönmark²](#), [Linnéa Hedman²](#)

Affiliations expand

- PMID: 38417585
- DOI: [10.1016/j.rmed.2024.107581](https://doi.org/10.1016/j.rmed.2024.107581)

Abstract

Background: Although remission occur, childhood-onset asthma may persist until adulthood. Since few longitudinal population-based studies have followed a cohort from childhood until adulthood, the knowledge on predictors of persistence of asthma is sparse.

Aim: To estimate persistence of asthma from 8 to 28 years and its associated factors.

Methods: Within the OLIN (Obstructive Lung Disease in Northern Sweden) studies, a cohort was recruited in 1996 (age 8y, n = 3430) and followed annually with questionnaires about asthma and risk factors until 19y. Clinical examinations included skin prick tests (at 8, 12 and 19y) and lung function tests (17 and 19y) whereof a subsample performed bronchial hyperreactivity test. We identified n = 248 with asthma at 8y whereof 170 (69%) participated in a follow-up at 28y (73% of possible to invite).

Results: Of the 170 participants at 28y, 105 (61.8%) had persistent asthma (women: 49/76, 64.5%; men: 56/94, 59.6%, p = 0.513). Factors collected at recruitment: allergic sensitization (OR7.8, 95%CI 3.0-20.2), severe respiratory infection (OR2.6, 95%CI 1.1-6.3) and higher asthma severity score (OR1.6, 95%CI 1.1-2.4) were associated with asthma at 28y after adjustment for sex, family history of asthma, breastfeeding <3 months and eczema. Replacing allergic sensitization with rhinoconjunctivitis in the model yielded OR3.4 (95%CI 1.5-8.0). Bronchial hyperreactivity at age 17y associated with asthma at 28y (OR9.0, 95%CI 1.7-47.0).

Conclusions: Among children with asthma onset by 8y, 62% still had asthma at age 28 years. Persistent asthma was associated with allergic sensitization, rhinoconjunctivitis, severe respiratory infection, a more severe asthma and bronchial hyperreactivity.

Keywords: Asthma; Epidemiology; Longitudinal; Relapse; Remission; Risk factors.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest HB: Personal fees for presentation at scientific meeting outside the submitted work from AstraZeneca, Boehringer Ingelheim and GlaxoSmithKline. None of the other authors have any conflicts of interest.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

29

Respirology

-
-
-

. 2024 Apr;29(4):280-282.

doi: 10.1111/resp.14685. Epub 2024 Feb 25.

What makes asthma characterized by airway eosinophilia become severe?

[Thomas Rothe](#)¹, [Niki Ubags](#)², [Christophe von Garnier](#)²

Affiliations expand

- PMID: 38403834
- DOI: [10.1111/resp.14685](https://doi.org/10.1111/resp.14685)

Free article

No abstract available

Keywords: eosinophilic asthma; nasal polyposis; steroid resistance.

- [13 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

30

Review

Arterioscler Thromb Vasc Biol

•
•
•

. 2024 Apr;44(4):772-783.

doi: 10.1161/ATVBAHA.123.318339. Epub 2024 Feb 22.

Calcium Signaling in Airway Epithelial Cells: Current Understanding and Implications for Inflammatory Airway Disease

[Amit Jairaman](#)¹, [Murali Prakriya](#)²

Affiliations expand

- PMID: 38385293
- DOI: [10.1161/ATVBAHA.123.318339](https://doi.org/10.1161/ATVBAHA.123.318339)

Free article

Abstract

Airway epithelial cells play an indispensable role in protecting the lung from inhaled pathogens and allergens by releasing an array of mediators that orchestrate inflammatory and immune responses when confronted with harmful environmental triggers. While this process is undoubtedly important for containing the effects of various harmful insults,

dysregulation of the inflammatory response can cause lung diseases including asthma, chronic obstructive pulmonary disease, and pulmonary fibrosis. A key cellular mechanism that underlies the inflammatory responses in the airway is calcium signaling, which stimulates the production and release of chemokines, cytokines, and prostaglandins from the airway epithelium. In this review, we discuss the role of major Ca²⁺ signaling pathways found in airway epithelial cells and their contributions to airway inflammation, mucociliary clearance, and surfactant production. We highlight the importance of store-operated Ca²⁺ entry as a major signaling hub in these processes and discuss therapeutic implications of targeting Ca²⁺ signaling for airway inflammation.

Keywords: asthma; calcium signaling; chemokine; cytokine; epithelium; inflammation; ion channels.

Conflict of interest statement

Disclosures None.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

31

Respirology

-
-
-

. 2024 Apr;29(4):283-285.

doi: 10.1111/resp.14670. Epub 2024 Feb 21.

[Asthma in children-What's in the future](#)

[Peter Neils Le Souëf](#)¹

Affiliations expand

- PMID: 38382966
- DOI: [10.1111/resp.14670](https://doi.org/10.1111/resp.14670)

Free article

No abstract available

Keywords: air pollution; childhood asthma; climate change; immunomodulation; mechanisms.

- [15 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

32

[Review](#)

Curr Opin Allergy Clin Immunol

-
-
-

. 2024 Apr 1;24(2):69-72.

doi: 10.1097/ACI.0000000000000963. Epub 2024 Feb 5.

Update on occupational allergy, including asthma, to soluble platinum salts

[Dick Heederik](#)¹, [Frits van Rooy](#)²

Affiliations expand

- PMID: 38359103
- PMCID: [PMC10906205](#)
- DOI: [10.1097/ACI.0000000000000963](#)

Abstract

Purpose of review: This review aims to evaluate recent literature on occupational platinum salt exposure and allergy and asthma in the context of existing evidence.

Recent findings: A major recent development is that large quantitative platinum salt exposure datasets have become available and are finding applications in epidemiological studies. These exposure data are expected to lead to higher quality epidemiological studies focusing on exposure response relations, modifiers of exposure and sensitization risk. The exposure data might also improve medical referral advice as part of medical surveillance studies and contribute to improved evidence on the effectiveness of exposure referral.

Summary: Hopefully, the availability of exposure databases form a stimulus for more exposure response studies and risk assessments leading to science based primary prevention approaches. The availability of more detailed exposure data can guide job transfer decisions in occupational clinical practice.

Copyright © 2024 The Author(s). Published by Wolters Kluwer Health, Inc.

Conflict of interest statement

Both authors have been involved over the last 5 years in studies supported by the International Platinum Metal Group Association (IPA). The contents of this manuscript,

including any opinions or conclusions, are solely those of both authors. The same applies to studies in which the authors were involved and were funded by IPA.

- [34 references](#)
- [1 figure](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

33

Review

Curr Opin Allergy Clin Immunol

-
-
-

. 2024 Apr 1;24(2):79-87.

doi: 10.1097/ACI.0000000000000967. Epub 2024 Feb 7.

[Understanding the heterogeneity of childhood allergic sensitization and its relationship with asthma](#)

[Adnan Custovic](#)¹, [Darije Custovic](#), [Sara Fontanella](#)

Affiliations expand

- PMID: 38359101

- PMID: [PMC10906203](#)
- DOI: [10.1097/ACI.0000000000000967](#)

Abstract

Purpose of review: To review the current state of knowledge on the relationship between allergic sensitization and asthma; to lay out a roadmap for the development of IgE biomarkers that differentiate, in individual sensitized patients, whether their sensitization is important for current or future asthma symptoms, or has little or no relevance to the disease.

Recent findings: The evidence on the relationship between sensitization and asthma suggests that some subtypes of allergic sensitization are not associated with asthma symptoms, whilst others are pathologic. Interaction patterns between IgE antibodies to individual allergenic molecules on component-resolved diagnostics (CRD) multiplex arrays might be hallmarks by which different sensitization subtypes relevant to asthma can be distinguished. These different subtypes of sensitization are associated amongst sensitized individuals at all ages, with different clinical presentations (no disease, asthma as a single disease, and allergic multimorbidity); amongst sensitized preschool children with and without lower airway symptoms, with different risk of subsequent asthma development; and amongst sensitized patients with asthma, with differing levels of asthma severity.

Summary: The use of machine learning-based methodologies on complex CRD data can help us to design better diagnostic tools to help practising physicians differentiate between benign and clinically important sensitization.

Copyright © 2024 The Author(s). Published by Wolters Kluwer Health, Inc.

Conflict of interest statement

Professor A. Custovic reports personal fees from Novartis, personal fees from Sanofi, personal fees from Stallergenes Greer, personal fees from AstraZeneca, personal fees from GSK, personal fees from La Roche-Posay, outside the submitted work. Other authors have nothing to disclose.

- [70 references](#)
- [3 figures](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

34

Editorial

Arch Bronconeumol

-
-
-

. 2024 Apr;60(4):197-199.

doi: 10.1016/j.arbres.2024.01.003. Epub 2024 Jan 17.

[As-needed Dual Inhaled Corticosteroid-Formoterol in Mild Asthma: Scientific Evidence](#)

[Article in English, Spanish]

[Richard Beasley](#)¹, [Diogenes S Ferreira](#)², [Alberto Papi](#)³

Affiliations expand

- PMID: 38326118
- DOI: [10.1016/j.arbres.2024.01.003](https://doi.org/10.1016/j.arbres.2024.01.003)

No abstract available

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

35

Meta-Analysis

Lancet Respir Med

-
-
-

. 2024 Apr;12(4):281-293.

doi: 10.1016/S2213-2600(23)00427-7. Epub 2024 Feb 1.

[Estimated health effects from domestic use of gaseous fuels for cooking and heating in high-income, middle-income, and low-income countries: a systematic review and meta-analyses](#)

[Elisa Puzzolo](#)¹, [Nigel Fleeman](#)², [Federico Lorenzetti](#)³, [Fernando Rubinstein](#)³, [Yaojie Li](#)⁴, [Ran Xing](#)⁴, [Guofeng Shen](#)⁴, [Emily Nix](#)³, [Michelle Maden](#)², [Rebecca Bresnahan](#)², [Rui Duarte](#)², [Lydia Abebe](#)⁵, [Jessica Lewis](#)⁵, [Kendra N Williams](#)⁵, [Heather Adahir-Rohani](#)⁵, [Daniel Pope](#)³

Affiliations expand

- PMID: 38310914
- DOI: [10.1016/S2213-2600\(23\)00427-7](https://doi.org/10.1016/S2213-2600(23)00427-7)

Abstract

Background: Exposure to household air pollution from polluting domestic fuel (solid fuel and kerosene) represents a substantial global public health burden and there is an urgent need for rapid transition to clean domestic fuels. Gas for cooking and heating might possibly affect child asthma, wheezing, and respiratory health. The aim of this review was to synthesise the evidence on the health effects of gaseous fuels to inform policies for scalable clean household energy.

Methods: In this systematic review and meta-analysis, we summarised the health effects from cooking or heating with gas compared with polluting fuels (eg, wood or charcoal) and clean energy (eg, electricity and solar energy). We searched PubMed, Scopus, Web of Science, MEDLINE, Cochrane Library (CENTRAL), Environment Complete, GreenFile, Google Scholar, Wanfang DATA, and CNKI for articles published between Dec 16, 2020, and Feb 6, 2021. Studies eligible for inclusion had to compare gas for cooking or heating with polluting fuels (eg, wood or charcoal) or clean energy (eg, electricity or solar energy) and present data for health outcomes in general populations. Studies that reported health outcomes that were exacerbations of existing underlying conditions were excluded. Several of our reviewers were involved in screening studies, data extraction, and quality assessment (including risk of bias) of included studies; 20% of studies were independently screened, extracted and quality assessed by another reviewer. Disagreements were reconciled through discussion with the wider review team. Included studies were appraised for quality using the Liverpool Quality Assessment Tools. Key health outcomes were grouped for meta-analysis and analysed using Cochrane's RevMan software. Primary outcomes were health effects (eg, acute lower respiratory infections) and secondary outcomes were health symptoms (eg, respiratory symptoms such as wheeze, cough, or breathlessness). This study is registered with PROSPERO, CRD42021227092.

Findings: 116 studies were included in the meta-analysis (two [2%] randomised controlled trials, 13 [11%] case-control studies, 23 [20%] cohort studies, and 78 [67%] cross-sectional studies), contributing 215 effect estimates for five grouped health outcomes. Compared with polluting fuels, use of gas significantly lowered the risk of pneumonia (OR 0.54, 95% CI 0.38-0.77; $p=0.00080$), wheeze (OR 0.42, 0.30-0.59; $p<0.0001$), cough (OR 0.44, 0.32-0.62; $p<0.0001$), breathlessness (OR 0.40, 0.21-0.76; $p=0.0052$), chronic obstructive pulmonary disease (OR 0.37, 0.23-0.60; $p<0.0001$), bronchitis (OR 0.60, 0.43-0.82; $p=0.0015$), pulmonary function deficit (OR 0.27, 0.17-0.44; $p<0.0001$), severe respiratory illness or death (OR 0.27, 0.11-0.63; $p=0.0024$), preterm birth (OR 0.66, 0.45-0.97; $p=0.033$), and low birth weight (OR 0.70, 0.53-0.93; $p=0.015$). Non-statistically significant effects were observed for asthma in children (OR 1.04, 0.70-1.55; $p=0.84$), asthma in adults (OR 0.65, 0.43-1.00; $p=0.052$), and small for gestational age (OR 1.04, 0.89-1.21; $p=0.62$). Compared with electricity, use of gas significantly increased risk of pneumonia (OR 1.26, 1.03-1.53; $p=0.025$) and chronic obstructive pulmonary disease (OR 1.15, 1.06-1.25; $p=0.0011$),

although smaller non-significant effects were observed for higher-quality studies. In addition, a small increased risk of asthma in children was not significant (OR 1.09, 0.99-1.19; $p=0.071$) and no significant associations were found for adult asthma, wheeze, cough, and breathlessness ($p>0.05$). A significant decreased risk of bronchitis was observed (OR 0.87, 0.81-0.93; $p<0.0001$).

Interpretation: Switching from polluting fuels to gaseous household fuels could lower health risk and associated morbidity and mortality in resource-poor countries where reliance on polluting fuels is greatest. Although gas fuel use was associated with a slightly higher risk for some health outcomes compared with electricity, gas is an important transitional option for health in countries where access to reliable electricity supply for cooking or heating is not feasible in the near term.

Funding: WHO.

Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license.

Conflict of interest statement

Declaration of interests We declare no competing interests.

- [Cited by 1 article](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

36

Ann Am Thorac Soc

-
-
-

. 2024 Apr;21(4):675-679.

doi: 10.1513/AnnalsATS.202306-544RL.

Long-Term Dupilumab Efficacy on Severe Exacerbations and Lung Function in Patients with Type 2 Asthma

[Alberto Papi](#)¹, [Mario Castro](#)², [William W Busse](#)³, [David Langton](#)⁴, [Stephanie Korn](#)^{5,6}, [Changming Xia](#)⁷, [Xavier Soler](#)⁷, [Nami Pandit-Abid](#)⁸, [Amr Radwan](#)⁷, [Juby A Jacob-Nara](#)⁸, [Paul J Rowe](#)⁸, [Yamo Deniz](#)⁷

Affiliations expand

- PMID: 38300119
- DOI: [10.1513/AnnalsATS.202306-544RL](https://doi.org/10.1513/AnnalsATS.202306-544RL)

No abstract available

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

37

Allergol Int

-
-
-

. 2024 Apr;73(2):214-223.

Cluster analysis of phenotypes, job exposure, and inflammatory patterns in elderly and nonelderly asthma patients

[Yung-Chi Chuang](#)¹, [Hsin-Hua Tsai](#)¹, [Meng-Chih Lin](#)², [Chao-Chien Wu](#)², [Yuan-Chung Lin](#)³, [Tsu-Nai Wang](#)⁴

Affiliations expand

- PMID: 38290901
- DOI: [10.1016/j.alit.2024.01.001](https://doi.org/10.1016/j.alit.2024.01.001)

Free article

Abstract

Background: Asthma has been identified as different phenotypes due to various risk factors. Age differences may have potential effects on asthma phenotypes. Our study aimed to identify potential asthma phenotypes among adults divided by age as either younger or older than 65 years. We also compared differences in blood granulocyte patterns, occupational asthmagens, and asthma control-related outcomes among patient phenotype clusters.

Methods: We recruited nonelderly (<65 years old) (n = 726) and elderly adults (≥65 years old) (n = 201) with mild-to-severe asthma. We conducted a factor analysis to select 17 variables. A two-step cluster analysis was used to classify subjects with asthma phenotypes, and a discriminant analysis was used to verify the classification of cluster results.

Results: There were three clusters with different characteristics identified in both the nonelderly and elderly asthmatic adults. In the nonelderly patient group, cluster 2 (obese, neutrophilic phenotypes) had a 1.85-fold significantly increased risk of asthma exacerbations. Cluster 3 (early-onset, atopy, and smoker with an eosinophil-predominant pattern) had a 2.37-fold risk of asthma exacerbations and higher oral corticosteroid (OCS) use than cluster 1 (late-onset and LMW exposure with paucigranulocytic blood pattern). Among elderly patients, cluster 2 had poor lung function and more ex-smokers. Cluster 3 (early-onset, long asthma duration) had the lowest paucigranulocytic blood pattern percentages in the elderly group.

Conclusions: The novelty of the clusters was found in age-dependent clusters. We identified three distinct phenotypes with heterogeneous characteristics, asthma exacerbations and medicine use in nonelderly and elderly asthmatic patients, respectively. Classification of age-stratified asthma phenotypes may lead to precise identification of patients, which provides personalized disease management.

Keywords: Asthma; Cluster analysis; Elderly; Inflammatory patterns; Job exposure.

Copyright © 2024 Japanese Society of Allergology. Published by Elsevier B.V. All rights reserved.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

38

Asian J Surg

-
-
-

. 2024 Apr;47(4):1932-1933.

doi: 10.1016/j.asjsur.2023.12.177. Epub 2024 Jan 25.

[Childhood obesity is associated with asthma: A two-sample Mendelian randomization analysis](#)

[Yao Xiao](#)¹, [Fushuang Yang](#)¹, [Lie Wang](#)¹, [Liping Sun](#)²

Affiliations expand

- PMID: 38278736

- DOI: [10.1016/j.asjsur.2023.12.177](https://doi.org/10.1016/j.asjsur.2023.12.177)

Free article

No abstract available

Conflict of interest statement

Declaration of competing interest The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

39

Lancet Respir Med

-
-
-

. 2024 Apr;12(4):270.

doi: 10.1016/S2213-2600(24)00012-2. Epub 2024 Jan 23.

[US Senate committee investigates asthma inhaler prices](#)

[Bryant Furlow](#)

- PMID: 38278163

- DOI: [10.1016/S2213-2600\(24\)00012-2](https://doi.org/10.1016/S2213-2600(24)00012-2)

No abstract available

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

40

Respir Med

-
-
-

. 2024 Apr;224:107535.

doi: 10.1016/j.rmed.2024.107535. Epub 2024 Jan 23.

[Dupilumab sustains lung function improvements in patients with moderate-to-severe asthma](#)

[Alberto Papi](#)¹, [Mario Castro](#)², [Jonathan Corren](#)³, [Ian D Pavord](#)⁴, [Yuji Tohda](#)⁵, [Arman Altincatal](#)⁶, [Nami Pandit-Abid](#)⁷, [Elizabeth Laws](#)⁷, [Bolanle Akinlade](#)⁸, [Leda P Mannent](#)⁹, [Rebecca Gall](#)⁸, [Juby A Jacob-Nara](#)⁷, [Yamo Deniz](#)⁸, [Paul J Rowe](#)⁷, [David J Lederer](#)⁸, [Megan Hardin](#)⁶

Affiliations expand

- PMID: 38272376

- DOI: [10.1016/j.rmed.2024.107535](https://doi.org/10.1016/j.rmed.2024.107535)

Free article

Abstract

Background: TRAVERSE ([NCT02134028](https://clinicaltrials.gov/ct2/show/study/NCT02134028)), a phase 3 open-label extension study, assessed dupilumab safety and efficacy in patients with asthma aged ≥ 12 years who completed a previous dupilumab asthma study. This analysis evaluated changes in multiple lung function parameters in patients with moderate-to-severe asthma with elevated type 2 biomarkers (baseline eosinophils ≥ 150 cells· μL^{-1} or fractional exhaled nitric oxide ≥ 25 ppb) who completed QUEST (parent study) and 2 years of dupilumab treatment in TRAVERSE.

Methods: Endpoints analyzed included: pre-bronchodilator forced expiratory volume in 1 s (FEV_1), forced vital capacity (FVC), forced expiratory flow ($\text{FEF}_{25-75\%}$), and pre- and post-bronchodilator FEV_1/FVC at parent study baseline (PSBL) at Weeks 0, 2, 48, and 96 in TRAVERSE, as well as pre- and post-bronchodilator FEV_1 slopes in QUEST and TRAVERSE. Statistical analyses were descriptive.

Results: Dupilumab improved pre-bronchodilator FEV_1 , FVC, and $\text{FEF}_{25-75\%}$ in QUEST; these improvements were sustained in TRAVERSE. In QUEST patients who received placebo, dupilumab initiation in TRAVERSE resulted in rapid lung function improvements. Mean (standard deviation) changes from PSBL at TRAVERSE Weeks 48 and 96 in pre-bronchodilator FEV_1 were 0.52 (0.59) and 0.45 (0.49) L in the dupilumab/dupilumab group and 0.47 (0.42) and 0.44 L (0.45) in the placebo/dupilumab group, respectively. Similar trends were observed for FVC and $\text{FEF}_{25-75\%}$. Dupilumab also improved FEV_1 slopes in QUEST and TRAVERSE.

Conclusion: Dupilumab demonstrated sustained improvements across multiple spirometric lung function measurements for up to 3 years; patients who received placebo in QUEST experienced rapid lung function improvement upon initiation of dupilumab in TRAVERSE.

Keywords: Dupilumab; Lung function; Moderate-to-severe asthma; Type 2 inflammation.

Copyright © 2024 The Author(s). Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest A. Papi reports grants, personal fees, and non-financial support from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Mundipharma, and Teva; personal fees and non-financial support from Menarini, Novartis, and Zambon; and grants from Sanofi. M. Castro reports research support from the American Lung Association, AstraZeneca, GSK, NIH, Novartis, PCORI, Pulmatrix, sanofi-aventis, and Shionogi; consultancy fees from Genentech, Novartis, sanofi-aventis, and Teva; speaker fees from

AstraZeneca, Genentech, GSK, Regeneron Pharmaceuticals, Inc., Sanofi and Teva; and royalties from Elsevier. J. Corren reports research grants from AstraZeneca, Genentech, Novartis and Regeneron Pharmaceuticals Inc.; research grants and consultancy fees from Sanofi; and speaker fees from AstraZeneca, Genentech, and Novartis. I.D. Pavord reports speaker fees from Aerocrine, Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Novartis, and Teva; payments for organizing educational events from AstraZeneca and Teva; consultancy fees from Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, Circassia, Dey Pharma, Genentech, GSK, Knopp Biosciences, Merck, MSD, Napp Pharmaceuticals, Novartis, Regeneron Pharmaceuticals Inc., RespiVert, Sanofi, Schering-Plough, and Teva; international scientific meeting sponsorship from AstraZeneca, Boehringer Ingelheim, Chiesi, GSK, Napp Pharmaceuticals, and Teva; and research grants from Chiesi. Y. Tohda reports consultancy fees from AstraZeneca, Kyorin Pharmaceutical, Novartis, Sanofi, and Teijin Pharma. A. Altincatal, N. Pandit-Abid, E. Laws, L.P. Mannent, J.A. Jacob-Nara, P.J. Rowe, and M. Hardin are employees of Sanofi and may hold stock and/or stock options in the company. B. Akinlade, R. Gall, Y. Deniz, and D.J. Lederer are employees and shareholders of Regeneron Pharmaceuticals Inc.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

41

Meta-Analysis

Eur J Clin Pharmacol

-
-
-

. 2024 Apr;80(4):563-573.

doi: 10.1007/s00228-024-03631-7. Epub 2024 Jan 25.

The relationship between use of SGLT2is and incidence of respiratory and infectious diseases and site-specific fractures: a meta-analysis based on 32 large RCTs

Yueping Wang¹, Xian Zhou²

Affiliations expand

- PMID: 38267688
- DOI: [10.1007/s00228-024-03631-7](https://doi.org/10.1007/s00228-024-03631-7)

Abstract

Objectives: We aimed to evaluate the relationship between use of sodium-glucose cotransporter-2 inhibitors (SGLT2is) and incidence of various respiratory and infectious diseases and site-specific fractures.

Methods: Large randomized controlled trials (RCTs) of SGLT2is enrolling more than 400 subjects were included. Outcomes of interest were various serious adverse events regarding to respiratory and infectious disorders and site-specific fractures. Meta-analysis was done using risk ratio (RR) and 95% confidence interval (CI) as effect size.

Results: Thirty-two large RCTs were included in this meta-analysis. Use of SGLT2is was significantly associated with the lower incidences of 6 kinds of noninfectious respiratory diseases {e.g., Asthma (RR 0.64, 95% CI 0.43-0.96; P = 0.0299), Chronic obstructive pulmonary disease [COPD] (RR 0.75, 95% CI 0.62-0.91; P = 0.0027), and Respiratory failure (RR 0.78, 95% CI 0.61-0.99; P = 0.0447)} and 4 kinds of infectious respiratory diseases {e.g., Bronchitis (RR 0.61, 95% CI 0.46-0.81; P = 0.0007), and Pneumonia (RR 0.85, 95% CI 0.78-0.93; P = 0.0002)}. Use of SGLT2is was not significantly associated with the incidences of 31 kinds of site-specific fractures (e.g., Hip fracture, Femoral neck fracture, and Spinal fracture; P > 0.05).

Conclusions: Our meta-analysis confirmed the benefits of SGLT2is against 6 kinds of noninfectious respiratory diseases (e.g., Asthma, COPD, and Respiratory failure) and 4 kinds of infectious respiratory diseases (e.g., Bronchitis, and Pneumonia). These findings suggest a likelihood that SGLT2is might be used to prevent or treat these respiratory diseases.

Moreover, our meta-analysis for the first time revealed no association between use of SGLT2is and incidence of various site-specific fractures.

Keywords: Asthma; Bronchitis; COPD; Hip fracture; Pneumonia; Respiratory failure; SGLT2is; Spinal fracture.

© 2024. The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature.

- [56 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

42

Review

Ann Allergy Asthma Immunol

-
-
-

. 2024 Apr;132(4):426-432.

doi: 10.1016/j.anai.2024.01.017. Epub 2024 Jan 20.

[Effect of air pollution on asthma](#)

[Xiaoying Zhou](#)¹, [Vanitha Sampath](#)¹, [Kari C Nadeau](#)²

Affiliations expand

- PMID: 38253122

- PMID: PMC10990824 (available on 2025-04-01)

- DOI: [10.1016/j.anai.2024.01.017](https://doi.org/10.1016/j.anai.2024.01.017)

Abstract

Asthma is a chronic inflammatory airway disease characterized by respiratory symptoms, variable airflow obstruction, bronchial hyperresponsiveness, and airway inflammation. Exposure to air pollution has been linked to an increased risk of asthma development and exacerbation. This review aims to comprehensively summarize recent data on the impact of air pollution on asthma development and exacerbation. Specifically, we reviewed the effects of air pollution on the pathogenic pathways of asthma, including type 2 and non-type 2 inflammatory responses, and airway epithelial barrier dysfunction. Air pollution promotes the release of epithelial cytokines, driving T_H2 responses, and induces oxidative stress and the production of proinflammatory cytokines. The enhanced type 2 inflammation, furthered by air pollution-induced dysfunction of the airway epithelial barrier, may be associated with the exacerbation of asthma. Disruption of the T_H17 /regulatory T cell balance by air pollutants is also related to asthma exacerbation. As the effects of air pollution exposure may accumulate over time, with potentially stronger impacts in the development of asthma during certain sensitive life periods, we also reviewed the effects of air pollution on asthma across the lifespan. Future research is needed to better characterize the sensitive period contributing to the development of air pollution-induced asthma and to map air pollution-associated epigenetic biomarkers contributing to the epigenetic ages onto asthma-related genes.

Copyright © 2024 American College of Allergy, Asthma & Immunology. Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosures Dr Nadeau reports receiving grants from the National Institute of Allergy and Infectious Diseases; National Heart, Lung, and Blood Institute; National Institute of Environmental Health Sciences; stock options from IgGenix, Seed Health, ClostraBio, Cour, and Alladapt; serving as a consultant for Excellergy, Red tree ventures, Regeneron, and IgGenix; serving as a co-founder of Alladapt, Latitude, and IgGenix; serving as a National Scientific Committee member at Immune Tolerance Network and National Institutes of Health clinical research centers; and having patents including "Mixed allergen composition and methods for using the same," "Granulocyte-based methods for detecting and monitoring immune system disorders," and "Methods and Assays for Detecting and Quantifying Pure Subpopulations of White Blood Cells in Immune System Disorders." Drs Zhou and Sampath have no conflicts of interest to report.

- [99 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Supplementary concepts, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

43

Pediatr Pulmonol

-
-
-

. 2024 Apr;59(4):1117-1119.

doi: 10.1002/ppul.26856. Epub 2024 Jan 15.

[Home spirometry monitoring to identify loss of asthma control in adolescents](#)

[Allison J Burbank](#)¹, [Jeff Laux](#)², [Jessica Brown](#)³, [Misha Sims](#)¹, [Sally Ivins](#)², [Michelle L Hernandez](#)¹

Affiliations [expand](#)

- PMID: 38224240
- PMCID: PMC10978234 (available on 2025-04-01)
- DOI: [10.1002/ppul.26856](https://doi.org/10.1002/ppul.26856)

No abstract available

Conflict of interest statement

Competing interests

The authors declare that they have no competing interests.

- [6 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

44

Pediatr Pulmonol

-
-
-

. 2024 Apr;59(4):915-922.

doi: 10.1002/ppul.26847. Epub 2024 Jan 5.

[Comparison of particles in exhaled air and multiple breath washout for assessment of small airway function in children with cystic fibrosis](#)

[Annelies M Zwitserloot](#)^{1,2}, [Frank A Verhoog](#)^{1,2}, [Maarten van den Berge](#)^{2,3}, [Monika Gappa](#)⁴, [Helma W Oosterom](#)^{1,2,3}, [Brigitte W M Willemse](#)^{1,2}, [Gerard H Koppelman](#)^{1,2}

Affiliations [expand](#)

- PMID: 38179886
- DOI: [10.1002/ppul.26847](https://doi.org/10.1002/ppul.26847)

Abstract

Background: The introduction of modulator therapy for cystic fibrosis (CF) has led to an increased interest in the detection of small airway disease (SAD) as sensitive marker of treatment response. The particles in exhaled air (PExA) method, which records exhaled particle mass (PEx ng/L) and number (PExNR), detects SAD in adult patients. Our primary aim was to investigate if PExA outcomes in children with CF are different when compared to controls and associated with more severe disease. Secondary aims were to assess feasibility and repeatability of PExA in children with CF and to correlate PExA to multiple breath nitrogen washout (MBNW) as an established marker of SAD.

Methods: Thirteen healthy children (HC), 17 children with CF with normal lung function (CF-N) (FEV_1 z-score ≥ -1.64) and six with airway obstruction (CF-AO) (FEV_1 z-score < -1.64) between 8 and 18 years performed MBNW followed by PExA and spirometry. Children with CF repeated the measurements after 3 months.

Results: PEx ng/L and PExNR/L per liter of exhaled breath were similar between the three groups. The lung clearance index (LCI) was significantly higher in both CF-N and CF-AO compared to HC. All participants, except one, were able to perform PExA. Coefficient of variation for PEx ng/l was (median) 0.38, range 0-1.25 and PExNR/l 0.38, 0-1.09. Correlation between LCI and PEx ng/l was low, r_s 0.32 ($p = .07$).

Conclusion: PExA is feasible in children. In contrast to LCI, PExA did not differentiate healthy children from children with CF suggesting it to be a less sensitive tool to detect SAD.

Keywords: cystic fibrosis; lung clearance index; multiple breath nitrogen washout; particles in exhaled air; small airway disease.

© 2024 The Authors. Pediatric Pulmonology published by Wiley Periodicals LLC.

- [31 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and fundingexpand

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

45

Allergy

•
•
•

. 2024 Apr;79(4):1018-1027.

doi: 10.1111/all.15985. Epub 2023 Dec 26.

Quantifying the benefits of early sublingual allergen immunotherapy tablet initiation in children

[Eckard Hamelmann](#)¹, [Eva Hammerby](#)², [Katrine Skaarup Scharling](#)², [Mikkel Pedersen](#)³, [Anna Okkels](#)³, [Jochen Schmitt](#)⁴

Affiliations expand

- PMID: 38146654
- DOI: [10.1111/all.15985](https://doi.org/10.1111/all.15985)

Abstract

Background: Allergic rhinitis (AR) is a chronic inflammatory disease of the upper airway, which progresses into allergic asthma (AA) in up to 45% of children. This analysis aimed to investigate clinical and economic benefits of sublingual allergen immunotherapy (SLIT tablets) initiated early in childhood for the treatment of AR by quantifying the long-term reduction in new cases of AA.

Methods: A Markov model was developed to estimate the long-term effects of SLIT tablets on the risk of developing asthma. Key parameters were primarily based on data

from the GRAZAX® Asthma Prevention trial and included the age- and treatment-dependent risk of developing AA as well as annual probabilities of progression/remission in AR severity. Healthcare costs were estimated using data from the REACT study.

Results: In a modelled cohort of children with moderate-to-severe seasonal AR initiated on SLIT tablets at ages 7 and 12, 24% and 29%, respectively, develop AA during a 20-year period. In comparison, when initiated at age 5, 19% develop AA. Additionally, initiation of SLIT tablets at age 5 is associated with a total healthcare cost of EUR 20,429 per patient, whereas initiation at ages 7 and 12 is associated with, respectively, EUR 21,050 and EUR 22,379 per patient 20 years after AR diagnosis.

Conclusion: Initiation of SLIT tablets in early childhood is associated with a clinically meaningful and permanent reduction in new cases of AA and lower healthcare costs among children with AR. This finding supports the clinical relevance of initiating SLIT tablets early for children with AR to obtain long-term clinical benefits.

Keywords: allergen immunotherapy; allergic rhinitis; asthma; cost-effectiveness; prevention.

© 2023 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [44 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

46

Osteoporos Int

-
-
-

. 2024 Apr;35(4):659-668.

Higher risk of osteoporosis in adult-onset asthma than childhood-onset asthma: from genetic and prospective evidence

[Weizhong Ding](#)¹, [Yong Huang](#)², [Guanghui Li](#)¹, [Yimin Dong](#)¹, [Xiaochen Li](#)³, [Minglong Wu](#)¹, [Kehan Song](#)⁴, [Feng Li](#)⁵

Affiliations expand

- PMID: 38141141
- DOI: [10.1007/s00198-023-07004-1](https://doi.org/10.1007/s00198-023-07004-1)

Abstract

Both COA and AOA have a genetically causal effect on osteoporosis. COA and AOA were independently associated with incident osteoporosis, and the risk was greatly higher in AOA. Besides corticosteroids, the increased risk of osteoporosis among asthma patients should be attributed to genetic susceptibility and other asthma medications.

Purpose/introduction: Childhood-onset asthma (COA) differs with adult-onset asthma (AOA) on genetic susceptibility, severity, and co-morbidities. Whether COA or AOA is independently associated with osteoporosis is unexplored. We aimed to determine the effects of COA and AOA on osteoporosis at genetic and individual level.

Methods: We used two-sample Mendelian randomization analysis to explore the causal effects of COA and AOA on osteoporosis. In the UK Biobank cohort, we included 478,289 osteoporosis-free participants at baseline (2006-2010). Participants were classified as non-asthma, COA, and AOA at recruitment. Multivariate Cox regression analysis was used to evaluate the effects of COA, AOA, and multiple asthma medications on incident osteoporosis risk.

Results: COA and AOA were causally related to osteoporosis, with odds ratio of 1.007 (95% confidence interval (CI), 1.0003-1.0132) and 1.012 (95% CI, 1.002-1.023), respectively. Multivariate Cox regression analysis suggested that COA (hazard ratio (HR), 1.46; 95% CI, 1.32-1.61) and AOA (HR, 1.70; 95% CI, 1.61-1.80) were independently associated with incident osteoporosis, and the risk was greatly higher in AOA (HR, 1.51; 95% CI, 1.34-1.70).

In addition to corticosteroids, monotherapy with leukotriene modifiers (HR, 1.70; 95% CI, 1.20-2.42), long-acting beta agonists (HR, 1.49; 95% CI, 1.18-1.87), and short-acting beta agonists (HR, 1.72; 95% CI 1.01-2.93) were independently associated with a higher risk of osteoporosis.

Conclusions: Both COA and AOA have a genetically causal effect on osteoporosis, and the risk of osteoporosis is greatly higher in AOA. Besides corticosteroids, the increased risk of osteoporosis among asthma patients should be attributed to genetic susceptibility and other asthma medications.

Keywords: Adult-onset asthma; Childhood-onset asthma; Mendelian randomization; Osteoporosis; UK Biobank.

© 2023. International Osteoporosis Foundation and Bone Health and Osteoporosis Foundation.

- [53 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

47

Allergy

-
-
-

. 2024 Apr;79(4):777-792.

doi: 10.1111/all.15964. Epub 2023 Dec 1.

Telemedicine with special focus on allergic diseases and asthma-Status 2022: An EAACI position paper

[Sylwia Smolinska](#)¹, [Florin-Dan Popescu](#)², [Elena Izquierdo](#)³, [Darío Antolín-Amérigo](#)⁴, [Oliver J Price](#)⁵, [Alberto Alvarez-Perea](#)^{6,7}, [Ibon Eguíluz Gracia](#)⁸, [Nikolaos G Papadopoulos](#)⁹, [Oliver Pfaar](#)¹⁰, [Filippo Fassio](#)¹¹, [Karin Hoffmann-Sommergruber](#)¹², [Stephanie Dramburg](#)¹³, [Ioana Agache](#)¹⁴, [Marek Jutel](#)^{1,15}, [Helen A Brough](#)^{16,17}, [João A Fonseca](#)¹⁸, [Elizabeth Angier](#)¹⁹, [Cristina Boccabella](#)²⁰, [Matteo Bonini](#)^{21,22,23}, [Audrey Dunn Galvin](#)²⁴, [Peter G Gibson](#)²⁵, [Radoslaw Gawlik](#)²⁶, [Farah Hannachi](#)²⁷, [Ömer Kalayci](#)²⁸, [Ludger Klimek](#)²⁹, [Rebecca Knibb](#)³⁰, [Paolo Matricardi](#)¹³, [Tomás Chivato](#)³¹

Affiliations expand

- PMID: 38041429
- DOI: [10.1111/all.15964](https://doi.org/10.1111/all.15964)

Abstract

Efficacious, effective and efficient communication between healthcare professionals (HCP) and patients is essential to achieve a successful therapeutic alliance. Telemedicine (TM) has been used for decades but during the COVID-19 pandemic its use has become widespread. This position paper aims to describe the terminology and most important forms of TM among HCP and patients and review the existing studies on the uses of TM for asthma and allergy. Besides, the advantages and risks of TM are discussed, concluding that TM application reduces costs and time for both, HCP and patients, but cannot completely replace face-to-face visits for physical examinations and certain tests that are critical in asthma and allergy. From an ethical point of view, it is important to identify those involved in the TM process, ensure confidentiality and use communication channels that fully guarantee the security of the information. Unmet needs and directions for the future regarding implementation, data protection, privacy regulations, methodology and efficacy are described.

Keywords: e-health; m-health; telecare; telehealth; telemedicine.

© 2023 European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [Cited by 1 article](#)
- [101 references](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

48

Review

Allergy

-
-
-

. 2024 Apr;79(4):861-883.

doi: 10.1111/all.15963. Epub 2023 Dec 1.

[Telehealth interventions for transition to self-management in adolescents with allergic conditions: A systematic review](#)

[Meg O' Sullivan](#)^{1,2}, [Margaret Curtin](#)¹, [Rachel Flynn](#)¹, [Caoimhe Cronin](#)¹, [James O' Mahony](#)¹, [Juan Trujillo](#)^{1,2}

Affiliations expand

- PMID: 38041398
- DOI: [10.1111/all.15963](https://doi.org/10.1111/all.15963)

Abstract

Telehealth is an emerging approach that uses technology to provide healthcare remotely. Recent publications have outlined the importance of supporting the transition to self-management of adolescents with allergic conditions. However, no synthesis of the evidence base on the use and impact of telehealth interventions for this purpose has been conducted to date. This review achieves these aims, in addition to exploring the language use surrounding these interventions, and their implementation. Four databases were searched systematically. References were independently screened by two reviewers. Methodological quality was assessed using the Mixed Methods Appraisal Tool. A narrative synthesis was undertaken. Eighteen articles were included, reporting on 15 telehealth interventions. A total of 86% targeted adolescents with asthma. Mobile applications were the most common telehealth modality used, followed by video-conferencing, web-based, virtual reality and artificial intelligence. Five intervention content categories were identified; educational, monitoring, behavioural, psychosocial and healthcare navigational. Peer and/or healthcare professional interaction, gamification and tailoring may increase engagement. The studies showed positive effects of the interventions or no difference from active controls, in self-management outcomes such as knowledge, health outcomes such as quality-of-life, and economic outcomes such as healthcare utilization. The most common implementation outcomes reported were acceptability, appropriateness, feasibility and fidelity.

Keywords: adolescent; mobile applications; self-management; telemedicine; transition to adult care.

© 2023 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [80 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



. 2024 Apr;132(4):477-484.e4.

doi: 10.1016/j.anai.2023.11.021. Epub 2023 Nov 25.

Impact of dupilumab across seasons in patients with type 2, uncontrolled, moderate-to-severe asthma

[Anju T Peters](#)¹, [Hironori Sagara](#)², [Jonathan Corren](#)³, [Christian Domingo](#)⁴, [Arman Altincatal](#)⁵, [Xavier Soler](#)⁶, [Nami Pandit-Abid](#)⁷, [Nora Crikelair](#)⁶, [Paul J Rowe](#)⁷, [Juby A Jacob-Nara](#)⁷, [Yamo Deniz](#)⁶

Affiliations expand

- PMID: 38013139
- DOI: [10.1016/j.anai.2023.11.021](https://doi.org/10.1016/j.anai.2023.11.021)

Free article

Abstract

Background: Seasonal variability could influence asthma exacerbations. Dupilumab, a fully human monoclonal antibody, blocks the shared receptor component for interleukin (IL)-4/IL-13, key and central drivers of type 2 inflammation. In the 52-week QUEST study ([NCT02414854](#)), add-on dupilumab every 2 weeks vs placebo significantly reduced exacerbations and improved prebronchodilator forced expiratory volume in 1 second in patients with uncontrolled, moderate-to-severe asthma. TRAVERSE ([NCT02134028](#)), the open-label QUEST extension study, enrolled patients with moderate-to-severe asthma to investigate long-term safety and efficacy of dupilumab, including patients who previously received placebo that initiated dupilumab therapy.

Objective: To investigate long-term dupilumab efficacy in reducing exacerbations across yearly seasons in patients with type 2 inflammatory asthma with and without clinical evidence of allergic asthma.

Methods: Unadjusted annualized exacerbation rate and proportions of patients experiencing severe asthma exacerbations are reported by month and season and for both hemispheres.

Results: The proportion of patients with type 2 asthma experiencing 1 or more severe asthma exacerbations during QUEST was 20.8% vs 10.0% in spring, 18.2% vs 7.3% in summer, 22.2% vs 12.6% in autumn, and 26.4% vs 12.0% in winter, for placebo- vs dupilumab-treated patients, respectively; P was less than .001 for placebo vs dupilumab in all seasons. Reductions in the proportion of patients experiencing severe exacerbations across seasons in subgroups with and without evidence of allergic asthma were similar to the overall type 2 population. Reductions in severe exacerbations observed during QUEST were sustained during TRAVERSE, up to 96 weeks across both hemispheres.

Conclusion: Dupilumab reduced asthma exacerbations, with no difference in the reduction between seasons, in patients with type 2 inflammation, with and without evidence of allergic asthma.

Trial registration: ClinicalTrials.gov Identifiers: [NCT02414854](#), [NCT02134028](#).

Copyright © 2023 The Authors. Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosures Dr Peters has served as a consultant for and received research support from Regeneron Pharmaceuticals Inc. and Sanofi, received research support from AstraZeneca, and provided consultancy for Optinose. Dr Sagara has received speaker fees from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, Novartis, and Sanofi. Dr Corren reports receiving research grants from and providing consultancy for AstraZeneca, Genentech, Novartis, Regeneron Pharmaceuticals Inc., and Sanofi and has received speaker fees from AstraZeneca, Genentech, and Novartis. Dr Domingo reports receiving travel and speaker fees from ALK, Allergy Therapeutics, Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, HAL Allergy, ImmunoTek, Menarini, Novartis, Pfizer, Sanofi-Aventis, Stallergenes Greer, and Teva. Mr Altincatal, Dr Pandit-Abid, Dr Rowe, and Dr Jacob-Nara are Sanofi employees and may hold stock and/or stock options in the company. Dr Soler, Ms Crikelair, and Dr Deniz are employees and shareholders of Regeneron Pharmaceuticals Inc.

SUPPLEMENTARY INFO

MeSH terms, Substances, Associated dataexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

50

Ann Allergy Asthma Immunol



. 2024 Apr;132(4):469-476.

doi: 10.1016/j.anai.2023.11.015. Epub 2023 Nov 24.

[Applicable predictive factors extracted from peak flow trajectory for the prediction of asthma exacerbation](#)

[Yichi Yang](#)¹, [Hirokazu Kimura](#)², [Isao Yokota](#)³, [Hironi Makita](#)⁴, [Michiko Takimoto-Sato](#)², [Machiko Matsumoto-Sasaki](#)², [Munehiro Matsumoto](#)², [Akira Oguma](#)², [Yuki Abe](#)², [Nozomu Takei](#)², [Houman Goudarzi](#)², [Kaoruko Shimizu](#)², [Masaru Suzuki](#)², [Masaharu Nishimura](#)⁴, [Satoshi Konno](#)²; [Hi-CARAT investigators](#)

Collaborators, Affiliations expand

- PMID: 38006971
- DOI: [10.1016/j.anai.2023.11.015](https://doi.org/10.1016/j.anai.2023.11.015)

Abstract

Background: Real-time asthma exacerbation prediction and acute asthma attack detection are essential for patients with severe asthma. Peak expiratory flow (PEF) exhibits a potential for use in long-term asthma self-monitoring. However, the method for processing PEF calculations remains to be clarified.

Objective: To develop clinically applicable novel exacerbation predictors calculated using PEF records.

Methods: Previously proposed exacerbation predictors, including the slope of PEF, percentage predicted PEF, percentage best PEF, the highest PEF over the lowest PEF within specific periods, and PEF coefficient of variation, in addition to a novel indicator delta PEF moving average (Δ MA), defined as the difference between 14-day and 3-day average PEF values, along with moving average (MA) adjusted for PEF reference ($\%$ Δ MA), were verified using the Hokkaido-based Investigative Cohort Analysis for Refractory Asthma data of 127 patients with severe asthma from whom 73,503 PEF observations were obtained. Receiver operating characteristic curves for all predictors were drawn, and the corresponding areas under the curve (AUCs) were computed. Regression analysis for MA and percentage MA were conducted.

Results: The most outstanding performance was shown by Δ MA and $\%$ Δ MA, with AUC values of 0.659 and 0.665 in the univariate model, respectively. When multivariate models were incorporated with random intercepts for individual participants, the AUC for Δ MA and $\%$ Δ MA increased to 0.907 and 0.919, respectively.

Conclusion: The MA and percentage MA are valuable indicators that should be considered when deriving predictors from the PEF trajectory for monitoring exacerbations in patients with severe asthma.

Trial registration: The Hokkaido-based Investigative Cohort Analysis for Refractory Asthma was registered in the University Hospital Medical Information Network Clinical Trials Registry (UMIN ID: 000003254). https://center6.umin.ac.jp/cgi-open-bin/ctr_e/ctr_view.cgi?recptno=R000003917.

Copyright © 2023 American College of Allergy, Asthma & Immunology. Published by Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosures Dr Yokota received research funding from Nihon Medi-Physics and speaker fees from Chugai Pharmaceutical Co and AstraZeneca, outside the submitted work. Dr Nishimura received research funding from AstraZeneca KK, Kyorin Pharmaceutical Ltd, and MSD. The remaining authors have no conflicts of interest to report.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

51

Allergol Int

-
-
-

. 2024 Apr;73(2):236-242.

doi: 10.1016/j.alit.2023.11.002. Epub 2023 Nov 23.

Increased blood eosinophils and airflow obstruction as new-onset asthma predictors in the elderly: The Nagahama study

[Kenta Nishi](#)¹, [Tadao Nagasaki](#)², [Hisako Matsumoto](#)³, [Tsuyoshi Oguma](#)¹, [Satoru Terada](#)¹, [Natsuko Nomura](#)¹, [Mariko Kogo](#)¹, [Noriyuki Tashima](#)⁴, [Hironobu Sunadome](#)⁵, [Kimihiro Murase](#)⁶, [Takeshi Matsumoto](#)⁷, [Takahisa Kawaguchi](#)⁸, [Yasuharu Tabara](#)⁹, [Fumihiko Matsuda](#)⁸, [Susumu Sato](#)⁵, [Kazuo Chin](#)¹⁰, [Toyohiro Hirai](#)¹

Affiliations expand

- PMID: 38001017
- DOI: [10.1016/j.alit.2023.11.002](https://doi.org/10.1016/j.alit.2023.11.002)

Free article

Abstract

Background: Asthma in the elderly needs more attention in an aging society. However, it is likely to remain underdiagnosed and undertreated. This study aimed to clarify clinical characteristics of new-onset asthma in the elderly, describing the prevalence, predictive factors, and comorbidities after asthma diagnosis of new-onset asthma in the elderly in the general population.

Methods: This community-based prospective cohort study enrolled 9804 generally healthy participants (30-74 years old) in Nagahama City, and conducted a follow-up assessment after 5 years. Elderly participants were those aged ≥ 65 years at baseline. Patients with new-onset asthma were defined as participants without asthma at baseline assessment and with asthma at the follow-up assessment.

Results: Among the 7948 participants analyzed in this study, 28 (1.4%) elderly and 130 (2.2%) non-elderly had new-onset asthma. Multiple logistic regression analysis revealed low forced expiratory volume in 1 s (FEV_{1s})/forced vital capacity (FVC) and high blood eosinophil counts at baseline as predicting factors for new-onset asthma in the elderly. Additionally, subsequent incidence of new-onset asthma was higher in elderly participants with both predictors (high blood eosinophil counts and low FEV_{1s} /FVC at baseline) than those with none or one of the predictors before asthma diagnosis. Lastly, elderly patients with new-onset asthma had more frequent comorbidity of moderate to severe sleep disordered breathing than those non-elderly.

Conclusions: Eosinophilic inflammation and airflow obstruction may predict subsequent new-onset asthma after the age of 65 years. Revealing the characteristics of new-onset asthma in the elderly can aid in the prevention of underdiagnosed asthma.

Keywords: Airflow obstruction; Elderly; Eosinophil; New-onset asthma; Sleep-disordered breathing.

Copyright © 2023 Japanese Society of Allergology. Published by Elsevier B.V. All rights reserved.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

52

Multicenter Study



[Asthma is a risk factor for general fatigue of long COVID in Japanese nation-wide cohort study](#)

[Keeya Sunata](#)¹, [Jun Miyata](#)², [Hideki Terai](#)³, [Emiko Matsuyama](#)¹, [Mayuko Watase](#)⁴, [Ho Namkoong](#)⁵, [Takanori Asakura](#)⁶, [Katsunori Masaki](#)¹, [Shotaro Chubachi](#)¹, [Keiko Ohgino](#)¹, [Ichiro Kawada](#)⁷, [Norihiro Harada](#)⁸, [Hitoshi Sasano](#)⁸, [Ai Nakamura](#)⁸, [Yu Kusaka](#)⁹, [Takehiko Ohba](#)⁹, [Yasushi Nakano](#)¹⁰, [Kazumi Nishio](#)¹⁰, [Yukiko Nakajima](#)¹⁰, [Shoji Suzuki](#)¹¹, [Shuichi Yoshida](#)¹¹, [Hiroyuki Tateno](#)¹¹, [Makoto Ishii](#)¹², [Koichi Fukunaga](#)¹

Affiliations expand

- PMID: 37996384
- DOI: [10.1016/j.alit.2023.11.003](https://doi.org/10.1016/j.alit.2023.11.003)

Free article

Abstract

Background: Multiple prolonged symptoms are observed in patients who recover from an acute COVID-19 infection, which is defined as long COVID. General fatigue is frequently observed in patients with long COVID during acute and post-acute phases. This study aimed to identify the specific risk factors for general fatigue in long COVID.

Methods: Hospitalized patients with COVID-19 aged over 18 years were enrolled in a multicenter cohort study at 26 medical institutions. Clinical data during hospitalization and patient-reported outcomes after discharge were collected from medical records, paper-based questionnaires, and smartphone apps.

Results: Among prolonged symptoms through 1-year follow-ups, general fatigue was the most interfering symptom in daily life. Patients with protracted fatigue at all follow-up periods had lower quality of life scores at the 12-month follow-up. Univariate logistic regression analysis of the presence or absence of general fatigue at the 3-month, 6-month,

and 12-month follow-ups identified asthma, younger age, and female sex as risk factors for prolonged fatigue. Multivariable logistic regression analysis revealed that asthma was an independent risk factor for persistent fatigue during the 12-month follow-up period. Longitudinal changes in the symptoms of patients with or without asthma demonstrated that general fatigue, not cough and dyspnea, was significantly prolonged in patients with asthma.

Conclusions: In a Japanese population with long COVID, prolonged general fatigue was closely linked to asthma. A preventive approach against COVID-19 is necessary to avoid sustained fatigue and minimize social and economic losses in patients with asthma.

Keywords: Asthma; Female; General fatigue; Japanese cohort study; Long COVID-19.

Copyright © 2023 Japanese Society of Allergology. Published by Elsevier B.V. All rights reserved.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

53

[Review](#)

Otolaryngol Clin North Am

-
-
-

. 2024 Apr;57(2):293-307.

doi: 10.1016/j.otc.2023.10.005. Epub 2023 Nov 18.

[Air Quality, Allergic Rhinitis, and Asthma](#)

[Abdulrahman Alenezi](#)¹, [Hannan Qureshi](#)¹, [Omar G Ahmed](#)², [Murugappan Ramanathan Jr](#)³

Affiliations expand

- PMID: 37985273
- DOI: [10.1016/j.otc.2023.10.005](https://doi.org/10.1016/j.otc.2023.10.005)

Abstract

This review article highlights air pollution as a critical global health concern with emphasis on its effects and role in the development and exacerbation of upper airway and lower airway disease with a focus on allergic rhinitis and asthma. This review underscores the World Health Organization's recognition of air pollution as the biggest environmental threat to human health. It discusses the various components and categories of air pollutants and the evidence-based effects they have on asthma and allergic rhinitis, ranging from pathogenesis to exacerbation of these conditions across various age groups in different geographic locations.

Keywords: Air pollution; Air quality; Airway inflammation; Allergic rhinitis; Asthma; Exacerbation; Inflammation; TRAP.

Copyright © 2023 Elsevier Inc. All rights reserved.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share



Perimenstrual Asthma and Premenstrual Disorders in Adolescents with Asthma

[Valeria Calcaterra](#)¹, [Andrea Farolfi](#)², [Enza D'Auria](#)³, [Annalisa De Silvestri](#)⁴, [Paola Baldassarre](#)², [Francesca Ferrara](#)⁵, [Lara Tiranini](#)⁶, [Michele Ghezzi](#)², [Nicolò Garancini](#)², [Luca Bernardo](#)⁵, [Rossella E Nappi](#)⁷, [Gianvincenzo Zuccotti](#)⁸

Affiliations expand

- PMID: 37977436
- DOI: [10.1016/j.jpag.2023.11.001](https://doi.org/10.1016/j.jpag.2023.11.001)

Abstract

Background: Asthma is a common chronic disease in pediatric patients, and perimenstrual asthma (PMA), refers to the worsening of asthma symptoms during the perimenstrual period, mainly reported in adult women. However, there is limited information regarding the exacerbation of symptoms in the presence of premenstrual disorders (PMDs) in adolescents. The aim of this pilot observational study was to investigate the frequency and potential association of PMA and PMDs in a clinical sample of adolescents with asthma.

Patients and methods: The study included 50 adolescents (aged 12-18 years, mean 16.08 ± 2.35) with asthma and at least 2 years of gynecological age. The participants completed the Asthma Control Test (ACT) to assess asthma control (considered pathological if ACT score < 20) and the modified Premenstrual Symptoms Screening Tool for Adolescents (PSST-A) to evaluate PMDs.

Results: A total of 75.5% of adolescents reported PMA. The prevalence of premenstrual symptoms did not significantly differ between the PMA and no-PMA group. Among the study sample, 38.7% experienced symptoms indicative of moderate/severe premenstrual syndrome, and 8.1% exhibited symptoms of premenstrual dysphoric disorder. Compared

with the no-PMA group, patients with PMA showed a significant impairment in daily and home activities ($P = .03$ and $P = .02$, respectively) and exhibited a difference in the frequency of asthma symptoms ($P < .001$) and medication use ($P \leq .01$).

Conclusion: Perimenstrual worsening of asthma symptoms may be common in adolescents with a severe form of asthma. Prospective data collection through menstrual diaries is necessary to further explore the association between PMA and PMDs. Identifying early risk factors for PMA could facilitate the development of preventive strategies and early interventions for adolescents with asthma.

Keywords: Adolescents; Asthma; Perimenstrual asthma; Premenstrual disorders.

Copyright © 2023. Published by Elsevier Inc.

Conflict of interest statement

Conflicts of Interest The authors declare no conflicts of interest.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

55

Observational Study

Ann Allergy Asthma Immunol

-
-
-

. 2024 Apr;132(4):457-462.e2.

doi: 10.1016/j.anai.2023.11.005. Epub 2023 Nov 17.

[Prospective direct comparison of biologic treatments for severe](#)

eosinophilic asthma: Findings from the PRISM study

[Duong Duc Pham¹](#), [Ji-Hyang Lee¹](#), [Hyouk-Soo Kwon¹](#), [Woo-Jung Song¹](#), [You Sook Cho¹](#), [Hyunyoung Kim¹](#), [Jae-Woo Kwon²](#), [So-Young Park³](#), [Sujeong Kim⁴](#), [Gyu Young Hur⁵](#), [Byung Keun Kim⁶](#), [Young-Hee Nam⁷](#), [Min-Suk Yang⁸](#), [Mi-Yeong Kim⁹](#), [Sae-Hoon Kim¹⁰](#), [Byung-Jae Lee¹¹](#), [Taehoon Lee¹²](#), [So Young Park¹³](#), [Min-Hye Kim¹⁴](#), [Young-Joo Cho¹⁵](#), [ChanSun Park¹⁶](#), [Jae-Woo Jung¹⁷](#), [Han Ki Park¹⁸](#), [Joo-Hee Kim¹⁹](#), [Ji-Yong Moon²⁰](#), [Ian Adcock²¹](#), [Pankaj Bhavsar²¹](#), [Kian Fan Chung²¹](#), [Tae-Bum Kim²²](#)

Affiliations expand

- PMID: 37977324
- DOI: [10.1016/j.anai.2023.11.005](https://doi.org/10.1016/j.anai.2023.11.005)

Abstract

Background: Although various monoclonal antibodies have been used as add-on therapy for severe eosinophilic asthma (SEA), to the best of our knowledge, no direct head-to-head comparative study has evaluated their efficacy.

Objective: To compare the efficacy of reslizumab, mepolizumab, and dupilumab in patients with SEA.

Methods: This was a multicenter, prospective observational study in patients with SEA who had received 1 of these biologic agents for at least 6 months. Cox proportional hazard models were used to compare the risk of the first exacerbation event, adjusting for sputum or blood eosinophils and common asthma-related covariates. The annual exacerbation rate was analyzed using a negative binomial model, and a mixed-effect model was used to analyze changes in forced expiratory volume in 1 second and asthma control test score over time.

Results: A total of 141 patients with SEA were included in the analysis; 71 (50%) received dupilumab; 40 (28%) received reslizumab, and 30 (21%) received mepolizumab. During the 12-month follow-up, 27.5%, 43.3%, and 38.0% of patients in the reslizumab, mepolizumab, and dupilumab groups, respectively, experienced at least 1 exacerbation. However, after adjusting for confounding factors, the dupilumab and mepolizumab groups showed similar outcomes in time-to-first exacerbation, exacerbation rate, forced expiratory volume in 1 second, and asthma control test score to those of the reslizumab group.

Conclusion: In patients with SEA, treatment with reslizumab, mepolizumab, and dupilumab resulted in comparable clinical outcomes within a 12-month period.

Trial registration: The cohort protocol was sanctioned by the Institutional Review Board of each study center (clinicaltrial.gov identifier [NCT05164939](#)).

Copyright © 2023 American College of Allergy, Asthma & Immunology. All rights reserved.

Conflict of interest statement

Disclosures The authors have no conflicts of interest to report.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Associated dataexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

56

Ann Allergy Asthma Immunol



. 2024 Apr;132(4):463-468.e1.

doi: 10.1016/j.anai.2023.11.006. Epub 2023 Nov 14.

[Real-world effectiveness of dupilumab in patients with asthma: Findings from the US ADVANTAGE study](#)

[Michael Blaiss](#)¹, [Eugene R Bleecker](#)², [Juby Jacob-Nara](#)³, [Radhika Nair](#)⁴, [Mei Sheng Duh](#)⁵, [Zhixiao Wang](#)⁶, [Richard H Stanford](#)⁷, [Xavier Soler](#)⁶, [Megan Hardin](#)⁴, [Mingchen Ye](#)⁵, [Anamika Khanal](#)⁵, [Kinga Borsos](#)⁴

Affiliations expand

- PMID: 37967668
- DOI: [10.1016/j.anai.2023.11.006](https://doi.org/10.1016/j.anai.2023.11.006)

Abstract

Background: Dupilumab is approved as an add-on maintenance therapy for patients (≥ 6 years) with moderate-to-severe asthma. Better understanding of real-world effectiveness is needed.

Objective: To characterize the real-world effectiveness of dupilumab in asthma management.

Methods: This retrospective study included patients (≥ 12 years of age) diagnosed with asthma, initiating dupilumab between November 2018 and September 2020. The study used a US electronic medical record database (TriNetX Dataworks, Cambridge, Massachusetts). Asthma exacerbation rates before and after the initiation of dupilumab were analyzed using generalized estimating equations models with Poisson probabilistic link to estimate incidence rate ratios (IRRs). Sensitivity analyses were conducted based on previous exacerbation data, eosinophil levels, history of atopic dermatitis or chronic rhinosinusitis with nasal polyps, previous use of biologics, and presence of SARS-CoV-2 (COVID-19).

Results: A total of 2400 patients initiating dupilumab met all study criteria. After initiation of dupilumab, risk of asthma exacerbation was reduced by 44% (IRR, 0.56; 95% CI, 0.47-0.57; $P = <0.0001$) and systemic corticosteroid prescriptions by 48% (IRR, 0.52; 95% CI, 0.48, 0.56; $P = <0.0001$) compared with those before initiation of dupilumab. Adjustment for COVID-19 showed a greater reduction in asthma exacerbations (IRR, 0.50; 95% CI, 0.45-0.55; $P = <0.0001$).

Conclusion: Current real-world efficacy evidence indicates that dupilumab reduces asthma exacerbations and total systemic corticosteroid prescriptions in clinical practice. The effectiveness of dupilumab was observed independent of exacerbation history, eosinophil levels, or COVID-19 impact.

Copyright © 2023. Published by Elsevier Inc.

Conflict of interest statement

Disclosures Dr Blaiss: Sanofi, Regeneron, Amgen, Lanier Biotherapeutics; Eugene R. Bleecker: Sanofi, AstraZeneca, Novartis, Regeneron; Dr Jacob-Nara and Dr Hardin are

employees of Sanofi; Dr Borsos and Dr Nair were employees of Sanofi at the time of study and preparation of the manuscript; Dr Wang and Dr Soler are employees and stockholders of Regeneron; Mei Sheng Duh, Mingchen Ye, and Anamika Khanal are employees of Analysis Group, Inc, which received research funds from Sanofi to conduct this study; Dr Stanford is a paid consultant for Sanofi.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

57

Allergol Int



. 2024 Apr;73(2):231-235.

doi: 10.1016/j.alit.2023.10.006. Epub 2023 Nov 10.

[Role of bronchial hyperresponsiveness in patients with obstructive sleep apnea with asthma-like symptoms](#)

[Akiko Sano](#)¹, [Takenori Kozuka](#)², [Nanase Watatani](#)¹, [Yuuki Kunita](#)¹, [Yoshiyuki Kawabata](#)¹, [Kyuya Gose](#)¹, [Ken Shirahase](#)¹, [Kazuya Yoshikawa](#)¹, [Ryo Yamazaki](#)¹, [Yusaku Nishikawa](#)¹, [Takashi Omori](#)¹, [Osamu Nishiyama](#)¹, [Takashi Iwanaga](#)³, [Hiroyuki Sano](#)¹, [Ryuta Haraguchi](#)¹, [Yuji Tohda](#)⁴, [Hisako Matsumoto](#)⁵

Affiliations expand

- PMID: 37951731

- DOI: [10.1016/j.alit.2023.10.006](https://doi.org/10.1016/j.alit.2023.10.006)

Free article

Abstract

Background: Obstructive sleep apnea (OSA) is one of the major co-morbidities and aggravating factors of asthma. In OSA-complicated asthma, obesity, visceral fat, and systemic inflammation are associated with its severity, but the role of bronchial hyperresponsiveness (BHR) is unclear. We investigated the involvement of BHR and mediastinal fat width, as a measure of visceral fat, with OSA severity in patients with OSA and asthma-like symptoms.

Methods: Patients with OSA who underwent BHR test and chest computed tomography scan for asthma-like symptoms were retrospectively enrolled. We evaluated the relationship between apnea-hypopnea index (AHI) and PC₂₀ or anterior mediastinal fat width, stratified by the presence or absence of BHR.

Results: OSA patients with BHR (n = 29) showed more obstructive airways and frequent low arousal threshold and lower mediastinal fat width, and tended to show fewer AHI than those without BHR (n = 25). In the overall analysis, mediastinal fat width was significantly positively correlated with AHI, which was significant even after adjustment with age and gender. This was especially significant in patients without BHR, while in OSA patients with BHR, there were significant negative associations between apnea index and airflow limitation, and hypopnea index and PC₂₀.

Conclusions: Risk factors for greater AHI differed depending on the presence or absence of BHR in OSA patients with asthma-like symptoms. In the presence of BHR, severity of asthma may determine the severity of concomitant OSA.

Keywords: Airway hyperresponsiveness; Asthma-like symptoms; Hypopnea; Mediastinal fat width; Obstructive sleep apnea.

Copyright © 2023 Japanese Society of Allergology. Published by Elsevier B.V. All rights reserved.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

58

Review

J Asthma



. 2024 Apr;61(4):282-291.

doi: 10.1080/02770903.2023.2280843. Epub 2023 Nov 23.

[Asthma-community acquired pneumonia co-diagnosis in children: a scoping review](#)

[Md Mahbubur Rashid](#)¹, [Shamim Ahmed](#)², [Louisa Owens](#)^{1,3}, [Nan Hu](#)¹, [Adam Jaffe](#)^{1,3}, [Nusrat Homaira](#)^{1,3,4}

Affiliations expand

- PMID: 37943507
- DOI: [10.1080/02770903.2023.2280843](https://doi.org/10.1080/02770903.2023.2280843)

Abstract

Objective: This scoping review investigated the existing literature and identified the evidence gaps related to diagnosis and management in children aged 2-18 years presenting to hospitals with a co-diagnosis of asthma and community-acquired pneumonia.

Data sources: We designed a scoping review following Arksey and O'Malley's scoping review framework and PRISMA extension for a scoping review. We searched literature using five electronic databases: PubMed, CINAHL, Scopus, Web of Science, and Embase from 2003 to June 2023.

Results: A total of 1599 abstracts with titles were screened and 12 abstracts were selected for full review. Separate guidelines including Modified Global Initiative for Asthma (GINA) guidelines; modified Integrated Management of Childhood Illness (IMCI) guidelines; and a consensus guideline developed by the Pediatric Infectious Diseases Society (PIDS) and Infectious Diseases Society of America (IDSA) were used for diagnosing asthma and CAP individually. Chest X-rays were used in 83.3% (10/12) of studies to establish the co-diagnosis of asthma-CAP in children. Variations were observed in using different laboratory investigations across the studies. Infectious etiologies were detected in five (41.7%) studies. In 75% (9/12) of studies, children with asthma-CAP co-diagnosis were treated with antimicrobials, however, bacterial etiology was not reported in 44.4% (4/9) of the studies.

Conclusions: Our scoping review suggests that chest X-rays are commonly used to establish the co-diagnosis of asthma-CAP and antibiotics are often used without laboratory confirmation of a bacterial etiology. Clinical practice guidelines for the management of asthma and pneumonia in children who present with co-diagnosis may standardize clinical care and reduce variation.

Keywords: Asthma; CAP; asthma-CAP co-diagnosis; pneumonia.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

59

Randomized Controlled Trial

J Asthma

-
-
-

. 2024 Apr;61(4):360-367.

doi: 10.1080/02770903.2023.2272816. Epub 2023 Nov 1.

Comparison of extrafine beclomethasone dipropionate/formoterol fumarate dry powder inhaler and pressurized metered-dose inhaler in Chinese patients with asthma: the FORTUNE study

[Jinping Zheng](#)¹, [Jianyong Zhang](#)², [Xiuhua Fu](#)³, [Changqing Lin](#)⁴, [Xinri Zhang](#)⁵, [Xiaodong Mei](#)⁶, [Massimo Corradi](#)⁷, [Glauco Cappellini](#)⁸, [Emanuele Calabro](#)⁸, [Cissy Zhu](#)⁹, [Eva Topole](#)⁸

Affiliations expand

- PMID: 37878325
- DOI: [10.1080/02770903.2023.2272816](https://doi.org/10.1080/02770903.2023.2272816)

Abstract

Objective: When selecting inhaled therapies, it is important to consider both the active molecules and the device. Extrafine formulation beclomethasone dipropionate plus formoterol fumarate (BDP/FF) has been available for some years delivered *via* pressurized metered-dose inhaler (pMDI). More recently, a breath-activated, multi-dose dry-powder inhaler (DPI), the NEXThaler, has been approved. The current study aimed to demonstrate the non-inferiority of BDP/FF delivered *via* the DPI vs. *via* the pMDI, in Chinese adults with asthma.

Methods: After a four-week run-in period, when all patients received BDP/FF pMDI 100/6 µg, two inhalations twice daily (BID), patients were randomized equally to BDP/FF pMDI or DPI, both 100/6 µg, two inhalations BID for 12 weeks. The primary objective was to demonstrate non-inferiority of BDP/FF DPI vs. BDP/FF pMDI in terms of average pre-dose morning peak expiratory flow (PEF) over the entire treatment period.

Results: Of 252 and 242 patients in the DPI and pMDI groups, respectively, 88.5% and 88.8% completed the study. The primary objective was met, with no statistically significant difference between the treatments in average pre-dose morning PEF, and with the lower limit of the 95% CI above the -15 L/min non-inferiority margin (adjusted mean difference:

5.25 L/min [95% CI: -0.56, 11.06]). Adverse events were reported by 48.4% and 49.6% patients in the DPI and pMDI groups, respectively, most mild or moderate.

Conclusions: The NEXThaler DPI is a similarly effective device to the pMDI for the administration of BDP/FF in adults, so extending the options available for the management of asthma.

Keywords: China; Extrafine; asthma; efficacy; inhaled corticosteroid; long-acting beta2-agonist; non-inferiority.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

60

J Asthma

-
-
-

. 2024 Apr;61(4):328-337.

doi: 10.1080/02770903.2023.2272806. Epub 2023 Oct 27.

[Alveolar nitric oxide concentration plays an important role in identifying cough variant asthma and assessing asthma control in children](#)

[Shouyan Zheng](#)¹, [Sheng Chen](#)¹, [Ying Hu](#)¹, [Mei Wang](#)¹, [Wei Liao](#)¹

Affiliations expand

- PMID: 37855443
- DOI: [10.1080/02770903.2023.2272806](https://doi.org/10.1080/02770903.2023.2272806)

Abstract

Objective: To study the value of alveolar nitric oxide concentration (CaNO) in the identification and disease control of cough variant asthma.

Methods: A retrospective study was conducted on cough variant asthma (CVA-Group), nonasthmatic cough (NAC-Group) and healthy control children (C-Group) aged 5-12 years. The exhaled nitric oxide and spirometry test results of the three groups were collected and compared.

Results: A total of 410 children were included in this study, including 190 in the CVA-Group, 183 in the NAC-Group, and 37 in the C-Group. The CaNO values of the CVA-Group [11.40 ppb (8.48-14.25)] were significantly higher than those of the NAC-Group and C-Group (all p values $<.05$). The MMEF %pred values of the CVA-Group [63.65 (56.28-73.58)] were significantly lower than those of the NAC-Group and C-Group (all p values $<.05$). FeNO50, JawNO and other spirometry indices (FVC %pred, FEV1%pred, FEV1/FVC %pred) showed no significant difference among the three groups. ROC curve analysis showed that the optimal cutoff point value of CaNO was 9.45 ppb, corresponding to 0.816 sensitivity and 0.736 specificity. Spearman correlation analysis showed a significant negative correlation between the CaNO measurement and CVA control score.

Conclusions: CaNO can not only help identify CVA early in children aged 5-12 years with chronic cough but is also significantly negatively correlated with the CVA control score.

Keywords: Alveolar nitric oxide concentration (CaNO); children; control assessment; cough variant asthma (CVA); identify.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

61

Review

Otolaryngol Clin North Am

-
-
-

. 2024 Apr;57(2):179-189.

doi: 10.1016/j.otc.2023.09.007. Epub 2023 Oct 11.

The Burden of Asthma and Allergic Rhinitis: Epidemiology and Health Care Costs

[Kunjan B Patel](#)¹, [James W Mims](#)², [John D Clinger](#)¹

Affiliations expand

- PMID: 37833101
- DOI: [10.1016/j.otc.2023.09.007](https://doi.org/10.1016/j.otc.2023.09.007)

Abstract

Allergic rhinitis affects up to 78% of people with asthma, and asthma occurs in 38% of people with allergic rhinitis. Asthma has a prevalence of 8.7% among adults and 6.2% among children and accounts for \$50 billion in medical costs and \$32 billion in indirect and mortality costs in the United States, respectively. Allergic rhinitis occurs in 5% to 15% of people in the United States. Allergic rhinitis also accounts for a significant health care cost burden, predominantly in terms of indirect costs related to reduced quality of life and presenteeism.

Keywords: Allergic rhinitis; Asthma; Cost; Epidemiology; Prevalence; Unified airway.

Copyright © 2023 Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosure The authors report no relevant financial disclosures.

- [Cited by 1 article](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

62

J Asthma

-
-
-

. 2024 Apr;61(4):265-270.

doi: 10.1080/02770903.2023.2267122. Epub 2023 Oct 10.

[Enhancing asthma research and improving health equity through decentralized clinical trials \(DCTs\) and mHealth technology](#)

[Emily R Hunt](#)¹, [Sara L Hantgan](#)², [Sunit P Jariwala](#)¹

Affiliations expand

- PMID: 37787433
- DOI: [10.1080/02770903.2023.2267122](https://doi.org/10.1080/02770903.2023.2267122)

Abstract

The COVID-19 pandemic led to widespread disruption and termination of clinical research and a prompt adoption of mobile health (mHealth) technologies in the healthcare space. As the United States' healthcare system has rapidly become reliant on remotely conducted activities, the implementation of decentralized methods using mHealth technology in research investigation has become a necessary alternative to traditional in-person cohort studies. The aim of this article is to: report successful and unsuccessful examples of remote asthma clinical studies, explore the benefits and potential drawbacks of virtual clinical investigation, discuss the potential impact on equity and representation in asthma research, and provide suggestions through which investigators can implement decentralized clinical trials. Enhanced study accessibility, participant diversity, safety measures, and research efficacy are some of the benefits identified with a focused discussion on the impact on equity that decentralized clinical trials renders. Furthermore, potential concerns regarding regulatory compliance, data privacy, and effective mHealth design and solutions are discussed. Despite the setbacks and interruptions faced by the study participants and investigators due to the pandemic, the transition to decentralized clinical studies using mHealth technology is a positive, feasible step toward innovation and equity in the allergy and immunology field.

Keywords: Mobile health; participant diversity; participant representation; remote studies; virtual investigation.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

63

Int Forum Allergy Rhinol

-
-
-

. 2024 Apr;14(4):819-827.

Olfactory decline develops in parallel with frailty in older US adults with obstructive lung diseases

[Esther Wang](#)¹, [Kristen E Wroblewski](#)², [Martha K McClintock](#)³, [Jayant M Pinto](#)⁴, [Leah J Witt](#)⁵

Affiliations expand

- PMID: 37747949
- PMCID: PMC10961252 (available on 2025-04-01)
- DOI: [10.1002/alr.23273](https://doi.org/10.1002/alr.23273)

Abstract

Background: Frailty is prevalent among older adults with asthma or chronic obstructive pulmonary disease (obstructive lung diseases [OLDs]). Frailty and OLD's co-occurrence is associated with increased hospitalization/mortality. Chemosensory dysfunction is closely connected to both OLD and frailty. We evaluated the utility of olfactory decline as a biomarker of frailty in the setting of OLD.

Methods: We performed a prospective, longitudinal, nationally representative study of community-dwelling older US adults in the National Social Life, Health and Aging Project, an omnibus in-home survey. Respondents reported a physician's diagnosis of OLD. Decline in odor identification and sensitivity over 5 years and frailty (adapted Fried frailty phenotype criteria) were measured using standard tools. Multivariate logistic regressions evaluated the association between OLD status, olfactory decline, and frailty.

Results: We compared individuals with OLD (n = 98; mean age 71.2 years, 59.2% women) and those without OLD (n = 1036; mean age 69.5 years, 58.9% women). Olfactory identification decline was associated with developing frailty over the 5-year follow-up period in individuals with OLD (odds ratio [OR] = 9.1, 95% confidence interval [CI] = 2.1-38.6, p = 0.003). Olfactory decline predicted incidence of frailty in individuals with OLD (identification: OR = 4.8, 95% CI = 1.3-17.5, P = 0.018; sensitivity: OR = 6.1, 95%CI = 1.2-31.0, p = 0.030) but not in those without OLD adjusting for demographics, heavy alcohol use, current smoking, and comorbidity. Results were robust to different thresholds for olfactory decline and frailty development.

Conclusions: Older adults with OLD who experience olfactory decline face higher odds of developing frailty. Use of olfactory decline as a biomarker to identify frailty could allow earlier intervention and decrease adverse outcomes for high-risk older adults with OLD.

Keywords: COPD; asthma; community-dwelling older adults; frailty; olfactory dysfunction.

© 2023 The Authors. International Forum of Allergy & Rhinology published by Wiley Periodicals LLC on behalf of American Academy of Otolaryngic Allergy and American Rhinologic Society.

Conflict of interest statement

JP reports receiving speaker's/consulting fees from Regeneron, Inc., Sanofi Genzyme, Inc., and Optinose, Inc. JP also serves as site investigator for clinical trials supported by Optinose, Inc., Connect Pharma, Inc., Regeneron, Inc., and Sanofi-Genzyme, Inc. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Financial/Nonfinancial Disclosures

The authors (EW, KEW, MKM, JMP, and LJW) declare no conflicts of interest related to the subject matter.

- [58 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

64

[Review](#)

Otolaryngol Clin North Am



. 2024 Apr;57(2):171-178.

doi: 10.1016/j.otc.2023.08.009. Epub 2023 Sep 20.

Allergic Rhinitis, Rhinosinusitis, and Asthma: Connections Across the Unified Airway

[Paavali Hannikainen](#)¹, [Chase Kahn](#)², [Elina Toskala](#)²

Affiliations expand

- PMID: 37735024
- DOI: [10.1016/j.otc.2023.08.009](https://doi.org/10.1016/j.otc.2023.08.009)

Abstract

The upper and lower airways are referred to as a single, integrated entity in the unified airway paradigm. When an allergen exposure occurs, the body responds locally and systemically, causing inflammation in other respiratory sites. As a result, asthmatic lower airway inflammation frequently coexists with upper airway inflammation, such as allergic rhinitis. Otolaryngologists are in a unique position to detect undiagnosed lower airway illness, start the proper therapy, and improve patient outcomes since they regularly encounter patients with upper airway problems.

Keywords: Allergic rhinitis; Asthma; Inflammation; Shared immunity; Unified airway.

Copyright © 2023 Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosure E. Toskala – GSK: speakers' bureau, research funding, consultant; Aerin: consultant; Optinose: research funding; Medtronic: consultant.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

65

Review

Otolaryngol Clin North Am

-
-
-

. 2024 Apr;57(2):225-242.

doi: 10.1016/j.otc.2023.08.006. Epub 2023 Sep 9.

Current and Novel Biologic Therapies for Patients with Asthma and Nasal Polyps

[Hanna K Mandl](#)¹, [Jessa E Miller](#)², [Daniel M Beswick](#)³

Affiliations expand

- PMID: 37684154
- DOI: [10.1016/j.otc.2023.08.006](https://doi.org/10.1016/j.otc.2023.08.006)

Abstract

A substantial portion of asthma and nasal polyps (NPs) share a common pathogenesis, which includes type 2-mediated inflammation. Distinct endotypes and phenotypes characterizing asthma and chronic rhinosinusitis have been identified. With emerging evidence describing pathophysiology, novel targets for biologic monoclonal antibody

treatments have been developed. There are currently six biologic therapies approved by the US Food and Drug Administration to treat asthma, including omalizumab, mepolizumab, reslizumab, benralizumab, dupilumab, and tezepelumab, three of these-omalizumab, mepolizumab, and dupilumab-are also approved for NPs.

Keywords: Asthma; Biologics; Chronic rhinosinusitis; Endotypes; Nasal polyps; Phenotypes; Th2-mediated inflammation.

Copyright © 2023 Elsevier Inc. All rights reserved.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Supplementary conceptsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

66

J Pharm Pract

-
-
-

. 2024 Apr;37(2):351-363.

doi: 10.1177/08971900221134551. Epub 2022 Oct 25.

[Ketamine in Critically Ill Patients: Use, Perceptions, and Potential Barriers](#)

[Carolyn M Bell](#)¹, [Megan A Rech](#)², [Kwame A Akuamoah-Boateng](#)³, [George Kasotakis](#)⁴, [Jeffrey D McMurray](#)⁵, [Benjamin A Moses](#)⁶, [Scott W Mueller](#)⁷, [Gourang P Patel](#)⁸, [Russel J Roberts](#)⁹, [Ankit Sakhuja](#)¹⁰, [Ann Salvator](#)¹¹, [Erika L Setliff](#)¹², [Christopher A Droege](#)¹³

Affiliations expand

- PMID: 36282867

- DOI: [10.1177/08971900221134551](https://doi.org/10.1177/08971900221134551)

Abstract

Objective: To evaluate practitioner use of ketamine and identify potential barriers to use in acutely and critically ill patients. To compare characteristics, beliefs, and practices of ketamine frequent users and non-users. **Methods:** An online survey developed by members of the Society of Critical Care Medicine (SCCM) Clinical Pharmacy and Pharmacology Section was distributed to physician, pharmacist, nurse practitioner, physician assistant and nurse members of SCCM. The online survey queried SCCM members on self-reported practices regarding ketamine use and potential barriers in acute and critically ill patients. **Results:** Respondents, 341 analyzed, were mostly adult physicians, practicing in the United States at academic medical centers. Clinicians were comfortable or very comfortable using ketamine to facilitate intubation (80.0%), for analgesia (77.9%), procedural sedation (79.4%), continuous ICU sedation (65.8%), dressing changes (62.4%), or for asthma exacerbation and status epilepticus (58.8% and 40.4%). Clinicians were least comfortable with ketamine use for alcohol withdrawal and opioid detoxification (24.7% and 23.2%). Most respondents reported "never" or "infrequently" using ketamine preferentially for continuous IV analgesia (55.6%) or sedation (61%). Responses were mixed across dosing ranges and duration. The most common barriers to ketamine use were adverse effects (42.6%), other practitioners not routinely using the medication (41.5%), lack of evidence (33.5%), lack of familiarity (33.1%), and hospital/institutional policy guiding the indication for use (32.3%). **Conclusion:** Although most critical care practitioners report feeling comfortable using ketamine, there are many inconsistencies in practice regarding dose, duration, and reasons to avoid or limit ketamine use. Further educational tools may be targeted at practitioners to improve appropriate ketamine use.

Keywords: analgesia; ketamine; sedation; survey.

Conflict of interest statement

Declaration of Conflicting InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS

Sage Journals

UNIMORE 

[Proceed to details](#)

Cite

Share

67

Pediatr Cardiol

-
-
-

. 2024 Apr;45(4):858-866.

doi: 10.1007/s00246-022-02941-w. Epub 2022 Aug 29.

Evaluation of the Early Effects of Childhood Asthma and Its Treatment on Cardiac Function as Revealed by Two-Dimensional Speckle-Tracking Echocardiography

[Şükriye Özde¹](#), [Osman Kayapınar²](#), [Mahmut Doğru¹](#), [Gülşah Aktüre¹](#), [Adnan Kaya¹](#), [Gökhan Coşkun¹](#), [Muhammed Keskin¹](#), [Cem Özde¹](#)

Affiliations expand

- PMID: 36038783
- DOI: [10.1007/s00246-022-02941-w](https://doi.org/10.1007/s00246-022-02941-w)

Abstract

There is minimal information available regarding the early effects of bronchial asthma (BA) and its treatment on cardiac function in children. We used two-dimensional speckle-tracking echocardiography (2D-STE) to evaluate cardiac function before and after the treatment of childhood BA. We enrolled 44 children with moderate and severe BA who had not been treated over the preceding 3 months or who were newly diagnosed. All children received the same treatment (that recommended by the Global Initiative for Asthma [GINA] in 2017). All children also underwent transthoracic 2D-STE before treatment and 6 months later. Clinical data were compared before and after treatment. After treatment,

significant increases were evident in right ventricular (RV) systolic and diastolic strain, as well as the systolic strain rate. Before and after treatment, the RV global longitudinal systolic strains were -22.8 ± 3.6 and -25.1 ± 4.5 , respectively ($p = 0.036$); the RV global longitudinal diastolic strains were -18.5 ± 6.0 and -21.5 ± 5.2 , respectively ($p = 0.038$); and the RV systolic strain rates were -1.26 ± 0.4 and -1.12 ± 0.3 , respectively ($p = 0.025$). After treatment, significant increases were observed in the right atrial (RA) peak longitudinal strain and strain rate. Before and after treatment, the RA peak atrial longitudinal strains were 32.5 ± 10.8 and 44.7 ± 11.2 , respectively ($p = 0.042$) and the RA longitudinal strain rates were -1.6 ± 0.3 and -2.0 ± 0.5 , respectively ($p = 0.041$). RV and RA subclinical dysfunction may develop in children with early-stage BA. However, asthma treatment appears to improve such dysfunction. In children with BA, clinical and subclinical changes in cardiac functions can be easily detected via 2D-STE.

Keywords: Atrial strain; Childhood asthma; Longitudinal strain; Right ventricle.

© 2022. The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

- [32 references](#)

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

68

Clin Exp Allergy

-
-
-

. 2024 Mar 31.

doi: 10.1111/cea.14475. Online ahead of print.

An integrated molecular risk score early in life for subsequent childhood asthma risk

[Andreas Böck](#)^{1,2}, [Kathrin Urner](#)^{1,2}, [Jana Kristin Eckert](#)^{1,2}, [Michael Salvermoser](#)^{1,2}, [Kristina Laubhahn](#)^{1,3}, [Sonja Kunze](#)^{4,5}, [Jörg Kumbrink](#)⁶, [Marc P Hoepfner](#)⁷, [Kathrin Kalkbrenner](#)^{1,2}, [Simone Kreimeier](#)^{2,8}, [Kirsten Beyer](#)^{2,9}, [Eckard Hamelmann](#)^{2,10}, [Michael Kabesch](#)^{2,11}, [Martin Depner](#)^{2,12}, [Gesine Hansen](#)^{2,13,14,15}, [Josef Riedler](#)¹⁶, [Marjut Roponen](#)¹⁷, [Elisabeth Schmausser-Hechfellner](#)¹², [Cindy Barnig](#)^{18,19}, [Amandine Divaret-Chauveau](#)^{20,21,22}, [Anne M Karvonen](#)²³, [Juha Pekkanen](#)^{23,24}, [Remo Frej](#)^{25,26}, [Caroline Roduit](#)^{25,26,27,28}, [Roger Lauener](#)^{25,27}, [Bianca Schaub](#)^{1,2,3}; [CHAMP study group](#); [PASTURE study group](#)

Collaborators, Affiliations expand

- PMID: 38556721
- DOI: [10.1111/cea.14475](https://doi.org/10.1111/cea.14475)

Abstract

Background: Numerous children present with early wheeze symptoms, yet solely a subgroup develops childhood asthma. Early identification of children at risk is key for clinical monitoring, timely patient-tailored treatment, and preventing chronic, severe sequelae. For early prediction of childhood asthma, we aimed to define an integrated risk score combining established risk factors with genome-wide molecular markers at birth, complemented by subsequent clinical symptoms/diagnoses (wheezing, atopic dermatitis, food allergy).

Methods: Three longitudinal birth cohorts (PAULINA/PAULCHEN, n = 190 + 93 = 283, PASTURE, n = 1133) were used to predict childhood asthma (age 5-11) including epidemiological characteristics and molecular markers: genotype, DNA methylation and mRNA expression (RNASeq/NanoString). Apparent (ap) and optimism-corrected (oc) performance (AUC/R²) was assessed leveraging evidence from independent studies (Naïve-Bayes approach) combined with high-dimensional logistic regression models (LASSO).

Results: Asthma prediction with epidemiological characteristics at birth (maternal asthma, sex, farm environment) yielded an ocAUC = 0.65. Inclusion of molecular markers as predictors resulted in an improvement in apparent prediction performance, however, for optimism-corrected performance only a moderate increase was observed (upto ocAUC = 0.68). The greatest discriminate power was reached by adding the first

symptoms/diagnosis (up to $ocAUC = 0.76$; increase of 0.08, $p = .002$). Longitudinal analysis of selected mRNA expression in PASTURE (cord blood, 1, 4.5, 6 years) showed that expression at age six had the strongest association with asthma and correlation of genes getting larger over time ($r = .59$, $p < .001$, 4.5-6 years).

Conclusion: Applying epidemiological predictors alone showed moderate predictive abilities. Molecular markers from birth modestly improved prediction. Allergic symptoms/diagnoses enhanced the power of prediction, which is important for clinical practice and for the design of future studies with molecular markers.

Keywords: asthma; epidemiology; genetics; paediatrics; prevention.

© 2024 The Authors. Clinical & Experimental Allergy published by John Wiley & Sons Ltd.

- [62 references](#)

SUPPLEMENTARY INFO

Grants and funding [expand](#)

FULL TEXT LINKS



"rhinitis"[MeSH Terms] OR rhinitis[Text Word]

JMIR Hum Factors

-
-
-

. 2024 Apr 4:11:e54386.

doi: 10.2196/54386.

[The Asthma App as a New Way to Promote Responsible Short-Acting Beta2-Agonist Use in People With Asthma: Results of a Mixed Methods Pilot Study](#)

[Liselot N van den Berg](#)^{1,2}, [Cynthia Hallensleben](#)^{1,2}, [Lisa Ae Vlug](#)^{1,2}, [Niels H Chavannes](#)^{1,2}, [Anke Versluis](#)^{1,2}

Affiliations expand

- PMID: 38574348
- DOI: [10.2196/54386](https://doi.org/10.2196/54386)

Free article

Abstract

Background: Approximately 262 million people worldwide are affected by asthma, and the overuse of reliever medication—specifically, short-acting beta2-agonist (SABA) overuse—is common. This can lead to adverse health effects. A smartphone app, the Asthma app, was developed via a participatory design to help patients gain more insight into their SABA use through monitoring and psychoeducation.

Objective: This pilot study aims to evaluate the feasibility and usability of the app. The preliminary effects of using the app after 3 months on decreasing asthma symptoms and improving quality of life were examined.

Methods: A mixed methods study design was used. Quantitative data were collected using the app. Asthma symptoms (measured using the Control of Allergic Rhinitis and Asthma Test) and the triggers of these symptoms were collected weekly. Quality of life (36-Item Short-Form Health Survey) was assessed at baseline and after 3, 6, and 12 months. User experience (System Usability Scale) was measured at all time points, except for baseline. Furthermore, objective user data were collected, and qualitative interviews, focusing on feasibility and usability, were organized. The interview protocol was based on the Unified Theory of Acceptance and Use of Technology framework. Qualitative data were analyzed using the Framework Method.

Results: The baseline questionnaire was completed by 373 participants. The majority were female (309/373, 82.8%), with a mean age of 46 (SD 15) years, and used, on average, 10 SABA inhalations per week. App usability was rated as good: 82.3 (SD 13.2; N=44) at 3 months. The Control of Allergic Rhinitis and Asthma Test score significantly improved at 3 months (18.5) compared with baseline (14.8; $\beta=.189$; SE 0.048; $P<.001$); however, the obtained score still indicated uncontrolled asthma. At 3 months, there was no significant difference in the quality of life. Owing to the high dropout rate, insufficient data were collected at 6 and 12 months and were, therefore, not further examined. User data showed that 335 users opened the app (250/335, 74.6%, were returning visitors), with an average session time of 1 minute, and SABA registration was most often used (7506/13,081, 57.38%). Qualitative data (from a total of 4 participants; n=2, 50% female) showed that the

participants found the app acceptable and clear. Three participants stated that gaining insight into asthma and its triggers was helpful. Two participants no longer used the app because they perceived their asthma as controlled and, therefore, did not use SABA often or only used it regularly based on the advice of the pulmonologist.

Conclusions: The initial findings regarding the app's feasibility and usability are encouraging. However, the notable dropout rate underscores the need for a cautious interpretation of the results. Subsequent studies, particularly those focusing on implementation, should explore the potential integration of the app into standard treatment practices.

Keywords: SABA overuse; app; asthma; eHealth; feasibility; mobile phone; short-acting beta2-agonist; usability.

©Liselot N van den Berg, Cynthia Hallensleben, Lisa AE Vlug, Niels H Chavannes, Anke Versluis. Originally published in JMIR Human Factors (<https://humanfactors.jmir.org>), 04.04.2024.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

J Allergy Clin Immunol Pract

-
-
-

. 2024 Apr 1:S2213-2198(24)00336-2.

doi: 10.1016/j.jaip.2024.03.043. Online ahead of print.

[GRAND ROUNDS REVIEW ARTICLE: Rhinitis disease burden and the impact of social determinants of health](#)

[Sarah K Wise](#)¹, [Yasmin Hamzavi-Abedi](#)², [Paavali A Hannikainen](#)³, [Mahesh Padukudru Anand](#)⁴, [Tracy Pitt](#)⁵, [Marine Savoure](#)⁶, [Elina Toskala](#)⁷

Affiliations expand

- PMID: 38570070
- DOI: [10.1016/j.jaip.2024.03.043](https://doi.org/10.1016/j.jaip.2024.03.043)

Abstract

Social determinants of health (SDH) have substantial impact on patient care and outcomes globally, both in low-to-middle income countries and high income countries. In the clinic, lack of availability of diagnostic tools, inequities in access to care, and challenges obtaining and adhering to prescribed treatment plans may further compound these issues. This article addresses a case of rhinitis in the context of SDH and inequities in care that may affect various communities and populations around the world. SDH may include various aspects of one's financial means, education, access to medical care, environment and living situation, and community factors - each of which could play a role in the rhinitis disease manifestations, diagnosis, and management. Allergic and non-allergic rhinitis are considered from this perspective. Rhinitis epidemiology, disease burden, and risk factors are broadly addressed. Patient evaluation, diagnostic tests, and management options are also reviewed, and issues related to SDH are noted. Finally, inequities in care, knowledge gaps, and unmet needs are highlighted. It is critical to consider SDH and care inequities when evaluating and treating patients for rhinitis and other allergic conditions.

Keywords: Allergic Rhinitis; Social determinants of health; asthma; inequities; non-allergic rhinitis; outcomes; rhinitis.

Copyright © 2024. Published by Elsevier Inc.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

[Review](#)

Mayo Clin Proc



. 2024 Apr;99(4):640-648.

doi: 10.1016/j.mayocp.2023.12.026.

Eosinophilic Esophagitis: Clinical Pearls for Primary Care Providers and Gastroenterologists

[Rohit Goyal](#)¹, [Amrit K Kamboj](#)¹, [Diana L Snyder](#)²

Affiliations expand

- PMID: 38569813
- DOI: [10.1016/j.mayocp.2023.12.026](https://doi.org/10.1016/j.mayocp.2023.12.026)

Abstract

Eosinophilic esophagitis (EoE) is a chronic and progressive immune-mediated esophageal disorder. Given its increasing incidence, it is now a leading cause of dysphagia and food impaction in the United States. Eosinophilic esophagitis is most common in adult White men and has a high concurrence rate with other atopic conditions like allergic rhinitis, bronchial asthma, and eczema. The initial presentation includes symptoms of esophageal dysfunction, classically solid-food dysphagia. Without treatment, inflammation can progress to fibrosis with the formation of strictures, leading to complications such as food impaction. It is a clinicopathologic disease requiring compatible clinical symptoms and histologic evidence of eosinophil-predominant inflammation of the esophageal epithelium with more than 15 eosinophils per high-power field. The mainstay of management includes the 3 d's (diet, drugs, dilation): dietary modifications to eliminate trigger food groups; medications including proton pump inhibitors, swallowed topical glucocorticoids, and dupilumab; and esophageal dilation to manage strictures. Various elimination diets have been found to be effective, including 1-food, 2-food, 4-food, and 6-food elimination diets. Dupilumab, a humanized monoclonal antibody that regulates interleukin 4 and 13 signaling pathways, has shown promising results in clinical trials and was approved by the Food and Drug Administration in 2022 for use in EoE. Symptom alleviation, although important, is not the sole end point of treatment in EoE as persistent inflammation, even in

the absence of symptoms, can lead to esophageal fibrosis and stricture formation over time. The chronic nature and high recurrence rates of EoE warrant maintenance therapy in patients with EoE after initial remission is achieved.

Copyright © 2024. Published by Elsevier Inc.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

Indian J Otolaryngol Head Neck Surg



. 2024 Apr;76(2):1759-1764.

doi: 10.1007/s12070-023-04402-z. Epub 2023 Dec 13.

[Allergic Rhinitis in Children: An Underestimated Disease](#)

[Konstantina Chrysouli](#)¹, [Christos Theodorakopoulos](#)¹, [Angelos Saratsiotis](#)¹, [Chara Kakosimou](#)¹, [Charalampia Tsami](#)¹, [Petros Vrettakos](#)¹, [Georgios Kokolakis](#)¹, [Anastasia Gounari](#)¹

Affiliations expand

- PMID: 38566743
- PMCID: PMC10982218 (available on 2025-04-01)

- DOI: [10.1007/s12070-023-04402-z](https://doi.org/10.1007/s12070-023-04402-z)

Abstract

Allergic rhinitis affects approximately 40% of children. This study aimed at determining the prevalence, sociodemographic features, comorbid illnesses, complications and quality of life in children referred to the outpatient clinic of "Allergic Rhinitis" in Penteli Children Hospital, Athens, Greece. We analyzed 590 pediatric patients referred to the outpatient clinic of "Allergic Rhinitis" in Penteli Children Hospital, Athens, Greece from 26/01/2012 to 20/11/2022. Allergic rhinitis was recorded as the one and only allergic disease in 59% of the children diagnosed with allergic rhinitis, concomitant asthma in 16% of them, atopic dermatitis in 8% and allergic conjunctivitis in 5%. 54% of asthmatic children was diagnosed allergic rhinitis, while 16% of allergic rhinitis children was diagnosed asthma. Skin tests were important diagnostic tools, not being necessary the measurement of total IgE in plasma. Eosinophils from nasal secretions were increased in 19% of the children with non-diagnostic cases and the diagnosis was local allergic rhinitis (LAR). Clinical presentations of allergic rhinitis were mainly nasal blockage, runny nose, recurrent sneezing and nasal itching. The most common complication was acute or chronic sinusitis 35%. Major associated comorbid illnesses among were tonsils hypertrophy, adenoid hypertrophy and inferior turbinate hypertrophy. Allergic rhinitis was reported in 78% of studied children and was frequently characterized by significant morbidity. Allergic rhinitis affected all paediatric age group and was peaked at age group 11-14 years and 5-7 years. There were associated epidemiological features, clinical manifestations, comorbid illnesses, complications and affectation of the quality of life in children.

Keywords: Allergens; Allergic rhinitis; Epidemiology; Narrative; Study.

© Association of Otolaryngologists of India 2023. Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.

Conflict of interest statement

Conflict of interest The author(s) declare that they have no competing interests.

- [9 references](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

Editorial

Clin Transl Allergy



. 2024 Apr;14(4):e12340.

doi: 10.1002/ct2.12340.

Real-world drug use in asthma, chronic obstructive pulmonary disease, rhinitis, cough, and cold in Finland from 1990 to 2021: Association with reduced disease burden

[Tiina Mattila](#)^{1,2}, [Vesa Jormanainen](#)^{2,3}, [Marina Erhola](#)⁴, [Tuula Vasankari](#)^{5,6}, [Sanna Toppila-Salmi](#)^{7,8}, [Fredrik Herse](#)⁹, [Riikka-Leena Leskelä](#)⁹, [Tari Haahtela](#)⁷

Affiliations expand

- PMID: 38558358
- PMCID: [PMC10984349](#)
- DOI: [10.1002/ct2.12340](#)

No abstract available

Keywords: COPD; asthma; health economics; public health; respiratory medications.

Conflict of interest statement

The authors do not have any relevant conflicts of interest concerning the submitted work.

- [10 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

Publication types, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Laryngoscope Investig Otolaryngol

-
-
-

. 2024 Mar 25;9(2):e1238.

doi: 10.1002/lio2.1238. eCollection 2024 Apr.

[Modified technique improves efficacy for in-office posterior nasal nerve ablation](#)

[Daniel Gorelik¹](#), [Aatin K Dhanda²](#), [Alexander Choi³](#), [Masayoshi Takashima¹](#), [Najm S Khan¹](#), [Nicholas R Rowan⁴](#), [Aria Jafari⁵](#), [Tariq Syed¹](#), [Omar G Ahmed¹](#)

Affiliations [expand](#)

- PMID: 38529340

- PMID: [PMC10961994](#)

- DOI: [10.1002/lto.1238](#)

Abstract

Objectives: Posterior nasal nerve (PNN) ablation is a minimally invasive treatment option for patients with chronic rhinitis. Recent evidence shows that parasympathetic innervation of the nasal cavity is more extensive and there are many fibers posterior to the lateral attachment of the middle turbinate. We describe a modified ablative technique that targets the extensive innervation of the posterior nasal nerves.

Methods: Description of the technique and retrospective cohort analysis. In addition to the traditional radiofrequency and cryoablation targets, three additional treatment sites posterior to the middle turbinate were targeted using radiofrequency ablation, as well as one focused treatment posteroinferior to the middle turbinate attachment using cryotherapy ablation. The primary outcome collected was a 30% improvement in overall rhinitis symptoms.

Results: Forty-five patients received treatment and completed 3-month follow-up using the modified technique for radiofrequency and cryotherapy PNN ablation. Previously, our institution documented a 64.5% responder rate at 3 months. After introducing the modified technique, the response rate at 3 months significantly improved (64.5% vs. 91.1%, $p = .004$).

Conclusions: This report suggests improved efficacy with implementation of the modified technique for in-office PNN ablation. Given the extensive nature of the post-ganglionic parasympathetic fibers of the nasal cavity which often emerge posterior to the middle turbinate attachment, a modified technique to target these branches should be considered. Prospective randomized studies comparing this modified technique to the traditional technique are needed.

Level of evidence: III.

Keywords: chronic rhinitis; cryotherapy; middle turbinate anatomy; posterior nasal nerve ablation; radiofrequency therapy.

© 2024 The Authors. Laryngoscope Investigative Otolaryngology published by Wiley Periodicals LLC on behalf of The Triological Society.

Conflict of interest statement

Masayoshi Takashima: consultant for Aerin® Medical, Medtronic, Acclarent®, and LivaNova. Omar G. Ahmed: consultant for Aerin® Medical and Medtronic.

- [18 references](#)
- [2 figures](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

J Infect

-
-
-

. 2024 Apr;88(4):106135.

doi: 10.1016/j.jinf.2024.106135. Epub 2024 Mar 8.

[Within-episode repeat antibiotic prescriptions in patients with respiratory tract infections: A population-based cohort study](#)

[Arief Lalmohamed](#)¹, [Roderick P Venekamp](#)², [Albert Bolhuis](#)³, [Patrick C Souverein](#)⁴, [Janneke H H M van de Wijgert](#)², [Martin C Gulliford](#)⁵, [Alastair D Hay](#)⁶

Affiliations expand

- PMID: 38462077
- DOI: [10.1016/j.jinf.2024.106135](https://doi.org/10.1016/j.jinf.2024.106135)

Free article

Abstract

Background: Antimicrobial stewardship interventions mainly focus on initial antibiotic prescriptions, with few considering within-episode repeat prescriptions. We aimed to describe the magnitude, type and determinants of within-episode repeat antibiotic prescriptions in patients presenting to primary care with respiratory tract infections (RTIs).

Methods: We conducted a population-based cohort study among 530 sampled English general practices within the Clinical Practice Research Datalink (CPRD). All individuals with a primary care RTI consultation for which an antibiotic was prescribed between March 2018 and February 2022. Main outcome measurement was repeat antibiotic prescriptions within 28 days of a RTI visit stratified by age (children vs. adults) and RTI type (lower vs. upper RTI). Multivariable logistic regression and principal components analyses were used to identify risk factors and patient clusters at risk for within-episode repeat prescriptions.

Findings: 905,964 RTI episodes with at least one antibiotic prescription were identified. In adults, 19.9% (95% CI 19.3-20.5%) had at least one within-episode repeat prescription for a lower RTI, compared to 10.5% (95% CI 10.3-10.8%) for an upper RTI. In children, this was around 10% irrespective of RTI type. The majority of repeat prescriptions occurred a median of 10 days after the initial prescription and was the same antibiotic class in 48.3% of cases. Frequent RTI related GP visits and prior within-RTI-episode repeat antibiotic prescriptions were main factors associated with repeat prescriptions in both adults and children irrespective of RTI type. Young (<2 years) and older (65+) age were associated with repeat prescriptions. Among those aged 2-64 years, allergic rhinitis, COPD and oral corticosteroids were associated with repeat prescriptions.

Interpretations: Repeat within-episode antibiotic use accounts for a significant proportion of all antibiotics prescribed for RTIs, with same class antibiotics unlikely to confer clinical benefit and is therefore a prime target for future antimicrobial stewardship interventions.

Keywords: Antibiotic prescribing; Antibiotic stewardship; Epidemiology; General practice; Observational study; Primary care; Respiratory tract infections.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of Competing Interest No conflicts of interest to declare.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

8

Observational Study

Allergy

-
-
-

. 2024 Apr;79(4):1042-1051.

doi: 10.1111/all.16052. Epub 2024 Mar 2.

[House dust mite SCIT reduces asthma risk and significantly improves long-term rhinitis and asthma control-A RWE study](#)

[Marek Jutel](#)^{1,2}, [Ludger Klimek](#)³, [Hartmut Richter](#)⁴, [Bernd Brüggenjürgen](#)⁵, [Christian Vogelberg](#)⁶

Affiliations expand

- PMID: 38429981

- DOI: [10.1111/all.16052](https://doi.org/10.1111/all.16052)

Abstract

Background: The German Therapy Allergen Ordinance (TAO) triggered an ongoing upheaval in the market for house dust mite (HDM) allergen immunotherapy (AIT) products. Three HDM subcutaneous AIT (SCIT) products hold approval in Germany and therefore will be available after the scheduled completion of the TAO procedure in 2026. In general, data

from clinical trials on the long-term effectiveness of HDM AIT are rare. We evaluated real-world data (RWD) in a retrospective, observational cohort study based on a longitudinal claims database including 60% of all German statutory healthcare prescriptions to show the long-term effectiveness of one of these products in daily life. Aim of this analysis was to provide a per product analysis on effectiveness of mite AIT as it is demanded by international guidelines on AIT.

Methods: Subjects between 5 and 70 years receiving their first (index) prescription of SCIT with a native HDM product (SCIT group) between 2009 and 2013 were included. The exactly 3:1 matched control group received prescriptions for only symptomatic AR medication (non-AIT group); the evaluation period for up to 6 years of follow-up ended in February 2017. Study endpoints were the progression of allergic rhinitis (AR) and asthma, asthma occurrence and time to the onset of asthma after at least 2 treatment years.

Results: In total, 892 subjects (608 adults and 284 children/adolescents) were included in the SCIT group and 2676 subjects (1824 adults and 852 children/adolescents) in the non-AIT group. During the follow-up period after at least 2 years of SCIT, the number of prescriptions in the SCIT group was reduced by 62.8% ($p < .0001$) for AR medication and by 42.4% for asthma medication ($p = .0003$). New-onset asthma risk was significantly reduced in the SCIT vs non-AIT group by 27.0% ($p = .0212$). The asthma-preventive effect of SCIT occurred 15 months after start of the treatment. In the SCIT group, the time to onset of asthma was prolonged compared to the non-AIT group ($p = .0010$).

Conclusion: In this first product based RWD analysis on SCIT with a native HDM product, patients aged 5 to 70 years benefited from AIT in the long term in terms of reduced progression of AR and asthma after at least 2 years of treatment. The effects seemed to last for up to 6 years after treatment termination. A significantly reduced risk of asthma onset was observed, starting after 15 months of treatment.

Keywords: allergen immunotherapy; house dust mite; long-term effect; real-world evidence; subcutaneous immunotherapy.

© 2024 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [59 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

Review

Curr Opin Allergy Clin Immunol



. 2024 Apr 1;24(2):73-78.

doi: 10.1097/ACI.0000000000000970. Epub 2024 Jan 30.

What's new in pediatric asthma and rhinitis phenotypes and endotypes?

[Giulia Roberto](#)^{1,2}, [Salvatore Barberi](#)³, [Gian Luigi Marseglia](#)^{1,2}, [Amelia Licari](#)^{1,2}

Affiliations expand

- PMID: 38295125
- DOI: [10.1097/ACI.0000000000000970](https://doi.org/10.1097/ACI.0000000000000970)

Abstract

Purpose of review: This review explores the evolving landscape of pediatric asthma and rhinitis, focusing on identifying and characterizing different subtypes.

Recent findings: Childhood asthma and rhinitis are prevalent respiratory conditions frequently occurring together. To address the need for a precise definition of these diseases, an unbiased and comprehensive phenotyping approach has been undertaken with hypothesis-free analysis of extensive datasets to uncover new relationships among clinical, environmental, and biological characteristics. On the other hand, the concept of endotype is elaborate and multifaceted, representing distinct pathophysiological mechanisms underlying the clinical presentation and requires the identification of reliable

biomarkers. The recognition of multiple inflammatory endotypes underscores the need for in-depth characterization, which could revolutionize the treatment landscape.

Summary: Comprehending phenotypes and endotypes is crucial for customizing effective and personalized management approaches for children with asthma and rhinitis. More precise and efficient care can be administered through recognition and detailed characterization, ultimately enhancing patients' quality of life.

Copyright © 2024 Wolters Kluwer Health, Inc. All rights reserved.

- [37 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

Allergy

-
-
-

. 2024 Apr;79(4):894-907.

doi: 10.1111/all.16001. Epub 2024 Jan 27.

[Differential modulation of allergic rhinitis nasal transcriptome by dupilumab and allergy immunotherapy](#)

[Matthew F Wipperman](#)¹, [Kaitlyn M Gayvert](#)¹, [Amanda Atanasio](#)¹, [Claire Q Wang](#)¹, [Jonathan Corren](#)², [Angelica Covarrubias](#)³, [Ian Setliff](#)¹, [Erica Chio](#)¹, [Elizabeth Laws](#)⁴, [Kelley Wolfe](#)⁴, [Sivan](#)

[Harel](#)¹, [Jennifer Maloney](#)¹, [Gary Herman](#)¹, [Jamie M Orengo](#)¹, [Wei Keat Lim](#)¹, [Sara C Hamon](#)¹, [Jennifer D Hamilton](#)¹, [Meagan P O'Brien](#)¹

Affiliations expand

- PMID: 38279910
- DOI: [10.1111/all.16001](https://doi.org/10.1111/all.16001)

Abstract

Background: Nasal epithelial cells are important regulators of barrier function and immune signaling; however, in allergic rhinitis (AR) these functions can be disrupted by inflammatory mediators. We aimed to better discern AR disease mechanisms using transcriptome data from nasal brushing samples from individuals with and without AR.

Methods: Data were drawn from a feasibility study of individuals with and without AR to Timothy grass and from a clinical trial evaluating 16 weeks of treatment with the following: dupilumab, a monoclonal antibody that binds interleukin (IL)-4R α and inhibits type 2 inflammation by blocking signaling of both IL-4/IL-13; subcutaneous immunotherapy with Timothy grass (SCIT), which inhibits allergic responses through pleiotropic effects; SCIT + dupilumab; or placebo. Using nasal brushing samples from these studies, we defined distinct gene signatures in nasal tissue of AR disease and after nasal allergen challenge (NAC) and assessed how these signatures were modulated by study drug(s).

Results: Treatment with dupilumab (normalized enrichment score [NES] = -1.73, $p = .002$) or SCIT + dupilumab (NES = -2.55, $p < .001$), but not SCIT alone (NES = +1.16, $p = .107$), significantly repressed the AR disease signature. Dupilumab (NES = -2.55, $p < .001$), SCIT (NES = -2.99, $p < .001$), and SCIT + dupilumab (NES = -3.15, $p < .001$) all repressed the NAC gene signature.

Conclusion: These results demonstrate type 2 inflammation is an important contributor to the pathophysiology of AR disease and that inhibition of the type 2 pathway with dupilumab may normalize nasal tissue gene expression.

Keywords: RNA; SCIT; allergic rhinitis; dupilumab; gene expression; transcriptomics.

© 2024 Regeneron Pharmaceuticals Inc and The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [58 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and fundingexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Randomized Controlled Trial

Otolaryngol Head Neck Surg

-
-
-

. 2024 Apr;170(4):1173-1182.

doi: 10.1002/ohn.627. Epub 2023 Dec 29.

[Impact of Dupilumab on Sinonasal Symptoms and Outcomes in Severe Chronic Rhinosinusitis With Nasal Polyps](#)

[Claire Hopkins](#)¹, [Joaquim Mullol](#)², [Asif H Khan](#)³, [Stella E Lee](#)⁴, [Martin Wagenmann](#)⁵, [Peter Hellings](#)⁶, [Wytske Fokkens](#)⁷, [Jérôme Msihid](#)⁸, [Radhika Nair](#)⁹, [Siddhesh Kamat](#)¹⁰, [Scott Nash](#)¹⁰, [Amr Radwan](#)¹¹, [Juby A Jacob-Nara](#)¹², [Yamo Deniz](#)¹⁰, [Paul J Rowe](#)¹²

Affiliations expand

- PMID: 38156522
- DOI: [10.1002/ohn.627](https://doi.org/10.1002/ohn.627)

Abstract

Objectives: To assess the severity of the top 5 22-item Sino-Nasal Outcome Test (SNOT-22) items ranked most important by patients with chronic rhinosinusitis with nasal polyps (CRSwNP), the effect of dupilumab on these items, and their association with objective disease measures.

Study design: Post hoc analysis of the SINUS-24 ([NCT02912468](#)) and SINUS-52 ([NCT02898454](#)) clinical trials.

Setting: Multinational, multicenter, randomized, double-blind, placebo-controlled, parallel-group studies.

Methods: Patients ranked the SNOT-22 items most affecting their health at baseline. Item symptom severity (0-5 scale) was assessed at baseline, Week 24 (W24), and Week 52 (W52). Changes in nasal polyps score (NPS) and Lund-Mackay (LMK) scores were assessed in patients with/without SNOT-22 items improvements of at least 1 severity group point at W24 and W52.

Results: The SNOT-22 items ranked most important at baseline were "decreased sense of smell/taste" (87% of patients), followed by "nasal blockage" (82%), "postnasal discharge" (40%), "thick nasal discharge" (37%), and "wake up at night" (26%); 82%, 61%, 32%, 40%, and 26% of patients reported severe symptoms (score 4 or 5) for these items, respectively. Dupilumab improved score severity for all top 5 items versus placebo at W24 and W52. Improvements in NPS and LMK scores were numerically greater in patients with improvements in the SNOT-22 top 5 items.

Conclusion: Loss of smell/taste was ranked as the most important symptom by patients with CRSwNP. Dupilumab reduced the severity of the top 5 most important SNOT-22 items versus placebo, in parallel with improvements in objective disease measures.

Clinical trial registration: SINUS-24 and SINUS-52 clinical trials were registered with ClinicalTrials.gov, identifiers [NCT02912468](#) and [NCT02898454](#), respectively.

Keywords: SNOT-22; chronic rhinosinusitis; nasal polyps; smell; taste.

© 2023 The Authors. Otolaryngology-Head and Neck Surgery published by Wiley Periodicals LLC on behalf of American Academy of Otolaryngology-Head and Neck Surgery Foundation.

- [22 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Associated dataexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

12

Review

Eur Arch Otorhinolaryngol

•
•
•

. 2024 Apr;281(4):1651-1657.

doi: 10.1007/s00405-023-08351-9. Epub 2023 Dec 6.

Prevalence of asthma and allergic rhinitis in children exposed to pets: a meta-analysis

[Yi-Yin Qiu](#)¹, [Liang-Qian Tu](#)², [Ming Chen](#)³

Affiliations expand

- PMID: 38057489
- DOI: [10.1007/s00405-023-08351-9](https://doi.org/10.1007/s00405-023-08351-9)

Abstract

Purpose: Pet exposure has always been controversial with childhood asthma and allergic rhinitis. We aimed to understand the prevalence of asthma and allergic rhinitis in children exposed to pets by meta-analysis.

Methods: We searched articles published from Jan 1, 2012 to Dec 31, 2022 in the Embase, PubMed, Cochrane Library, and Web of Science databases. We included a cross-sectional study that reported the prevalence of asthma and allergic rhinitis in children exposed to pets. Furthermore, we performed subgroup analyses according to pet type and age.

Results: In 14 selected studies, the meta-analysis results showed that the pooled prevalence of asthma in children exposed to pets was 19.0% (95% CI 13.3-24.7%), and the pooled prevalence of allergic rhinitis in children exposed to pets was 25.5% (95% CI 12.4-38.5%). The prevalence of asthma in children exposed to cats and dogs was 16.4% (95% CI 9.9-22.8%) and 12.5% (95% CI 8.7-16.2%), respectively. The prevalence of allergic rhinitis was 24.9% (95% CI 2.9-47.0%) and 24.1% (95% CI 2.6-45.6%), respectively. The prevalence of asthma in pet-exposed children was 17.1% (95% CI 12.3-22.0%) in the adolescence group (> 10 years) and 26.3% (95% CI 12.2-40.3%) in the childhood group (0-10 years). The prevalence of allergic rhinitis was 8.6% (95% CI 7.2-10.0%) in the adolescence group and 46.3% (95% CI 44.0-48.6%) in the childhood age group.

Conclusions: The prevalence of asthma and allergic rhinitis in children exposed to pets is different. Exposure to pet cats is more prone to illness, and younger children are more susceptible to disease than older children.

Keywords: Allergic rhinitis; Asthma; Children; Pets; Prevalence.

© 2023. The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature.

- [29 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

13

[Review](#)

Otolaryngol Clin North Am

•
•
•

. 2024 Apr;57(2):293-307.

doi: 10.1016/j.otc.2023.10.005. Epub 2023 Nov 18.

Air Quality, Allergic Rhinitis, and Asthma

[Abdulrahman Alenezi](#)¹, [Hannan Qureshi](#)¹, [Omar G Ahmed](#)², [Murugappan Ramanathan Jr](#)³

Affiliations expand

- PMID: 37985273
- DOI: [10.1016/j.otc.2023.10.005](https://doi.org/10.1016/j.otc.2023.10.005)

Abstract

This review article highlights air pollution as a critical global health concern with emphasis on its effects and role in the development and exacerbation of upper airway and lower airway disease with a focus on allergic rhinitis and asthma. This review underscores the World Health Organization's recognition of air pollution as the biggest environmental threat to human health. It discusses the various components and categories of air pollutants and the evidence-based effects they have on asthma and allergic rhinitis, ranging from pathogenesis to exacerbation of these conditions across various age groups in different geographic locations.

Keywords: Air pollution; Air quality; Airway inflammation; Allergic rhinitis; Asthma; Exacerbation; Inflammation; TRAP.

Copyright © 2023 Elsevier Inc. All rights reserved.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

14

Allergol Int



. 2024 Apr;73(2):290-301.

doi: 10.1016/j.alit.2023.10.007. Epub 2023 Nov 18.

[Local nasal immunotherapy with birch pollen-galactomannan conjugate-containing ointment in mice and humans](#)

[Keiko Komatsuzaki](#)¹, [Hiroki Kageshima](#)², [Yuki Sekino](#)², [Yasuhiro Suzuki](#)³, [Tsukasa Ugajin](#)⁴, [Meiyo Tamaoka](#)⁵, [Ryoichi Hanazawa](#)⁶, [Akihiro Hirakawa](#)⁶, [Yasunari Miyazaki](#)⁵

Affiliations [expand](#)

- PMID: 37981502
- DOI: [10.1016/j.alit.2023.10.007](https://doi.org/10.1016/j.alit.2023.10.007)

Free article

Abstract

Background: Allergen immunotherapy (AIT) is the only disease-modifying treatment for immunoglobulin (Ig) E-mediated allergy. Owing to the high prevalence and early onset of hay fever and pollen-food allergy syndrome (PFAS), a safer and simpler treatment method than conventional AIT is needed. To develop a local nasal immunotherapy using an ointment containing hypoallergenic pollen and assess its efficacy in mice and healthy humans.

Methods: Hypoallergenicity was achieved by combining pollen and galactomannan through the Maillard reaction to create birch pollen-galactomannan conjugate (BP-GMC). The binding of galactomannan to Bet v 1 was confirmed using electrophoresis and Western blotting (WB). Binding of specific IgE antibodies to BP-GMC was verified using enzyme-linked immunosorbent assay (ELISA) and basophil activation test (BAT). The localization of BP-GMC absorption was confirmed using a BALB/c mouse model. BP-GMC mixed with white petrolatum was intranasally administered to 10 healthy individuals (active drugs, 8; placebo, 2) for 14 days.

Results: In electrophoresis and WB, no 17-kDa band was observed. In ELISA and BAT, BP-GMC did not react to specific IgE but was bound to IgA and IgG. In the mouse model, BP-GMC was detected in nasopharyngeal-associated lymphoid tissues. In the active drug group, the salivary-specific IgA level significantly increased on day 15 ($p = 0.0299$), while the serum-specific IgG level significantly increased on day 85 ($p = 0.0006$).

Conclusions: The BP-GMC ointment rapidly produced antagonistic antibodies against IgE; it is safe and easy to use and might serve as a therapeutic antigen for hay fever and PFAS.

Keywords: Allergen immunotherapy; Birch pollen-galactomannan conjugate ointment; Hay fever; Local nasal immunotherapy; Pollen-food allergy syndrome.

Copyright © 2023 Japanese Society of Allergology. Published by Elsevier B.V. All rights reserved.

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

15

Eur Arch Otorhinolaryngol

-
-
-

. 2024 Apr;281(4):1807-1817.

Residual nasal polyp tissue following dupilumab therapy is associated with periostin-associated fibrosis

[Isao Suzaki](#)¹, [Yuki Maruyama](#)², [Sawa Kamimura](#)², [Kojiro Hirano](#)², [Satoshi Nunomura](#)³, [Kenji Izuhara](#)³, [Hitome Kobayashi](#)²

Affiliations expand

- PMID: 37979011
- DOI: [10.1007/s00405-023-08336-8](https://doi.org/10.1007/s00405-023-08336-8)

Abstract

Purpose: Dupilumab, an anti-interleukin-4 receptor alpha monoclonal antibody, is a new treatment for severe uncontrolled chronic rhinosinusitis with nasal polyps. However, data on the effect of dupilumab on histological changes in nasal polyp tissue are lacking. We aimed to investigate the effect of dupilumab on real-life clinical conditions and nasal polyp tissues from patients with eosinophilic chronic rhinosinusitis (ECRS), which is a refractory subtype.

Methods: We conducted an open-label, prospective, observational, single-centre study on 63 patients with refractory ECRS on the basis of the criteria of the Japanese Epidemiological Survey of Refractory Eosinophilic Chronic Rhinosinusitis Study. These patients had a history of surgery and received dupilumab for 24 weeks. Patient-reported sinonasal symptoms, T&T olfactometry and nasal polyp scores were prospectively evaluated. In 23 patients with residual nasal polyps following dupilumab treatment, changes in systemic and local periostin expression, and total collagen deposition in nasal polyp tissues were investigated before and after dupilumab administration.

Results: Dupilumab rapidly improved sinonasal symptoms and reduced the nasal polyp score 24 weeks after initiation. 40 (63.5%) patients had resolution of nasal polyps, but the reduction was limited in the remaining 23 (36.5%) patients. Periostin expression in serum and nasal lavage fluid was decreased, whereas periostin and the total collagen deposition area in subepithelial tissues in residual nasal polyps were enhanced after dupilumab administration.

Conclusion: Dupilumab improves sinonasal symptoms and reduces the nasal polyp score in refractory ECRS. Periostin-associated tissue fibrosis may be involved in the differential effect of dupilumab on nasal polyp reduction.

Keywords: Asthma; Collagen; Dupilumab; Eosinophilic chronic rhinosinusitis; Nasal polyp; Periostin.

© 2023. The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature.

- [48 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

16

Review

Auris Nasus Larynx

-
-
-

. 2024 Apr;51(2):356-360.

doi: 10.1016/j.anl.2023.10.006. Epub 2023 Nov 14.

[New insights into chronic rhinosinusitis associated with IgG4-related disease](#)

[Kenichi Takano](#)¹, [Ryuta Kamekura](#)², [Tsuyoshi Okuni](#)², [Keisuke Yamamoto](#)²

Affiliations expand

- PMID: 37973437
- DOI: [10.1016/j.anl.2023.10.006](https://doi.org/10.1016/j.anl.2023.10.006)

Free article

Abstract

IgG4-related disease (IgG4-RD) is a chronic inflammatory disorder characterized by elevated IgG4 serum levels, abundant IgG4-positive plasmacyte infiltration, and fibrosis of various organs, including the head and neck. We aimed to provide an overall review of IgG4-RD in the sinonasal region and propose a novel entity and criteria of chronic rhinosinusitis (CRS) associated with IgG4-RD as "IgG4-CRS," a distinct manifestation of IgG4-RD in the sinonasal region. Sinonasal involvement has been increasingly recognized; however, this region is not included in the classic IgG4-RD-affected organs. The clinical features of IgG4-CRS, including its prevalence and relationship with allergies and olfactory disturbances, have also been explored. Serum IgG4 levels and IgG4-positive plasma cell infiltrations, crucial diagnostic factors, have been discussed in association with IgG4-CRS pathogenesis. Fibrosis, a hallmark of IgG4-RD, is observed in sinonasal tissues; however, typical fibrosis, such as storiform fibrosis, is not usually found. Mimics or complications in eosinophilic CRS (ECRS) and antineutrophil cytoplasmic antibody-associated vasculitis (AAV) are highlighted. Treatment often involves typically effective glucocorticoids. Organ-specific diagnostic criteria for the sinonasal region have not currently been established. Hence, this review aims to foster awareness and understanding of IgG4-CRS among ENT physicians and to provide a basis for future research and diagnostic refinement.

Keywords: Chronic rhinosinusitis; IgG4; IgG4-related disease; Review.

Copyright © 2023. Published by Elsevier B.V.

Conflict of interest statement

Declaration of Competing Interest The authors declare no conflicts of interest associated with this manuscript.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

17

Allergy

-
-
-

. 2024 Apr;79(4):884-893.

doi: 10.1111/all.15927. Epub 2023 Nov 2.

Natural course of pollen-induced allergic rhinitis from childhood to adulthood: A 20-year follow up

[Magnus Lindqvist](#)¹, [Katja Biering Leth-Møller](#)², [Allan Linneberg](#)^{2,3}, [Inger Kull](#)⁴, [Anna Bergström](#)^{5,6}, [Antonios Georgellis](#)^{5,6}, [Magnus P Borres](#)⁷, [Agneta Ekeboom](#)⁸, [Marianne van Hage](#)¹, [Erik Melén](#)⁴, [Marit Westman](#)^{1,9}

Affiliations expand

- PMID: 37916606
- DOI: [10.1111/all.15927](https://doi.org/10.1111/all.15927)

Abstract

Background: Allergic rhinitis (AR) is one of the most common chronic diseases worldwide. There are limited prospective long-term data regarding persistency and remission of AR. The objective of this study was to investigate the natural course of pollen-induced AR (pollen-AR) over 20 years, from childhood into early adulthood.

Methods: Data from 1137 subjects in the Barn/Children Allergi/Allergy Milieu Stockholm Epidemiologic birth cohort (BAMSE) with a completed questionnaire regarding symptoms, asthma, treatment with allergen immunotherapy (AIT) and results of allergen-specific IgE

for inhalant allergens at 4, 8, 16 and 24 years were analyzed. Pollen-AR was defined as sneezing, runny, itchy or blocked nose; and itchy or watery eyes when exposed to birch and/or grass pollen in combination with allergen-specific IgE $\geq 0.35 \text{ kU}_A/\text{L}$ to birch and/or grass.

Results: Approximately 75% of children with pollen-AR at 4 or 8 years had persistent disease up to 24 years, and 30% developed asthma. The probability of persistency was high already at low levels of pollen-specific IgE. The highest rate of remission from pollen-AR was seen between 16 and 24 years (21.5%); however, the majority remained sensitized. This period was also when pollen-specific IgE-levels stopped increasing and the average estimated annual incidence of pollen-AR decreased from 1.5% to 0.8% per year.

Conclusion: Children with pollen-AR are at high risk of persistent disease for at least 20 years. Childhood up to adolescence seems to be the most dynamic period of AR progression. Our findings underline the close cross-sectional and longitudinal relationship between sensitization, AR and asthma.

Keywords: BAMSE; IgE; allergic rhinitis; asthma; pollen allergy.

© 2023 The Authors. Allergy published by European Academy of Allergy and Clinical Immunology and John Wiley & Sons Ltd.

- [Cited by 1 article](#)
- [41 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

18

[Review](#)



. 2024 Apr;57(2):179-189.

doi: 10.1016/j.otc.2023.09.007. Epub 2023 Oct 11.

The Burden of Asthma and Allergic Rhinitis: Epidemiology and Health Care Costs

[Kunjan B Patel](#)¹, [James W Mims](#)², [John D Clinger](#)¹

Affiliations expand

- PMID: 37833101
- DOI: [10.1016/j.otc.2023.09.007](https://doi.org/10.1016/j.otc.2023.09.007)

Abstract

Allergic rhinitis affects up to 78% of people with asthma, and asthma occurs in 38% of people with allergic rhinitis. Asthma has a prevalence of 8.7% among adults and 6.2% among children and accounts for \$50 billion in medical costs and \$32 billion in indirect and mortality costs in the United States, respectively. Allergic rhinitis occurs in 5% to 15% of people in the United States. Allergic rhinitis also accounts for a significant health care cost burden, predominantly in terms of indirect costs related to reduced quality of life and presenteeism.

Keywords: Allergic rhinitis; Asthma; Cost; Epidemiology; Prevalence; Unified airway.

Copyright © 2023 Elsevier Inc. All rights reserved.

Conflict of interest statement

Disclosure The authors report no relevant financial disclosures.

- [Cited by 1 article](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

19

Observational Study

Int Forum Allergy Rhinol

-
-
-

. 2024 Apr;14(4):765-774.

doi: 10.1002/alr.23255. Epub 2023 Aug 25.

[All chronic rhinosinusitis endotype clusters demonstrate improvement in patient-reported and clinical outcome measures after endoscopic sinus surgery](#)

[Nikita Chapurin](#)¹, [Rodney J Schlosser](#)², [Jorge Gutierrez](#)², [Jess C Mace](#)³, [Timothy L Smith](#)³, [Todd E Bodner](#)⁴, [Sofia Khan](#)², [Jennifer K Mulligan](#)¹, [Jose L Mattos](#)⁵, [Jeremiah A Alt](#)⁶, [Vijay R Ramakrishnan](#)⁷, [Zachary M Soler](#)²

Affiliations expand

- PMID: 37563836
- PMCID: PMC10858289 (available on 2025-04-01)

- DOI: [10.1002/alr.23255](https://doi.org/10.1002/alr.23255)

Abstract

Background: It is unclear whether chronic rhinosinusitis (CRS) endotypes show a differential response to endoscopic sinus surgery (ESS). We explored patient mucous inflammatory cytokine expression and associations with patient-reported and clinically measured post-operative outcome measures.

Methods: Patients with CRS were prospectively recruited between 2016 and 2021 into a national multicenter, observational study. Mucus was collected from the olfactory cleft preoperatively and evaluated for 26 biomarkers using cluster analysis. Patient-reported outcome measures included the 22-item Sino-Nasal Outcome Test (SNOT-22) and Questionnaire of Olfactory Dysfunction (QOD). Additional clinical measures of disease severity included threshold, discrimination, and identification (TDI) scores using "Sniffin' Sticks" testing and Lund-Kennedy endoscopic score (LKES).

Results: A total of 115 patients were clustered into type 2 inflammatory, non-type 2 inflammatory, noninflammatory, and two indeterminate clusters based on individual protein levels. Overall, the type 2 inflammatory cluster was found to have the highest mean improvement in both SNOT-22 (-28.3 [standard deviation, ± 16.2]) and TDI (6.5 [standard deviation, ± 7.9]) scores 6 months after ESS. However, on average, all endotype clusters demonstrated improvement in all outcome measures after ESS without statistically significant between-group differences in SNOT-22 ($p = 0.738$), QOD ($p = 0.306$), TDI ($p = 0.358$), or LKES ($p = 0.514$) measures.

Conclusions: All CRS endotype clusters responded favorably to surgery and showed improvements in patient-reported and objective outcome measures. Thus, ESS should be considered a more generalized CRS therapy, and benefits appear to not be limited to specific endotypes.

Keywords: biomarker; chronic rhinosinusitis; cytokine; endotype; outcome assessment (healthcare); sinus surgery.

© 2023 ARS-AAOA, LLC.

Conflict of interest statement

Potential Conflict of Interest Disclosures:

N.C.; J.G.; J.C.M.; S.K.; J.K.M.; T.E.B - No potential conflicts of interest to disclose. Z.M.S: Consultant for Olympus Medical Systems, OptiNose US Inc., Genentech, Lyra Therapeutics, and Sinusonic. R.J.S.: Consultant for ENT Stryker, Medtronic Systems Inc., Healthy Humming, GlaxoSmithKline, Sanofi, and Optinose US Inc. Supported from grants from: ENT Stryker, Healthy Humming, GlaxoSmithKline, Sanofi, and Optinose US Inc. J.A.A.: Consultant for OptiNose US Inc., Medtronic Inc. and GlycoMira Therapeutics, Inc. V.R.R.: Consultant for

OptiNose US Inc. and Medtronic Systems Inc. Advisory board member for Genentech, Novartis, and GlaxoSmithKline. None of the following consultancy positions or grant support are affiliated with this investigation or manuscript:

- [45 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

20

Int Forum Allergy Rhinol

-
-
-

. 2024 Apr;14(4):755-764.

doi: 10.1002/alr.23250. Epub 2023 Aug 15.

Does air pollutant exposure impact disease severity or outcomes in chronic rhinosinusitis?

[Robert Hagedorn](#)¹, [Benton Tullis](#)¹, [Cassidy Nguyen](#)¹, [Ryan Stockard](#)¹, [Jess C Mace](#)², [Vijay R Ramakrishnan](#)³, [Daniel M Beswick](#)⁴, [Zachary M Soler](#)⁵, [Timothy L Smith](#)², [Jeremiah A Alt](#)¹, [Amarbir S Gill](#)⁶

Affiliations [expand](#)

- PMID: 37555485

- DOI: [10.1002/alr.23250](https://doi.org/10.1002/alr.23250)

Abstract

Background: Poor air quality increases the risk of developing chronic rhinosinusitis (CRS) and other airway diseases. However, there are limited data on air pollutants and CRS-specific disease severity. We assessed the impact of air pollutants on sinonasal-specific and general quality-of-life (QOL) measures in a multi-institutional cohort of patients with CRS.

Methods: Participants with CRS were prospectively enrolled in a cross-sectional study and self-selected continued appropriate medical therapy or endoscopic sinus surgery (ESS). The 22-item SinoNasal Outcome Test (SNOT-22) and Medical Outcomes Study Questionnaire Short-Form 6-D (SF-6D) health utility value scores were recorded. Patient exposure to air pollutants was determined using residence zip codes. Unadjusted group differences were compared, and correlation coefficients were evaluated to identify the magnitude of bivariate association.

Results: A total of 486 patients were enrolled and followed for a mean of 6.9 (standard deviation [SD] \pm 2.3) months. Pollutant exposure did not significantly correlate with baseline SNOT-22 or SF-6D scores. Revision ESS was associated with higher median fine particulate matter (PM_{2.5}; Δ = 0.12, [95% confidence interval {CI}: 0.003, 0.234]; p = 0.006) compared with primary surgery. PM_{2.5}, PM₁₀, and nitrogen dioxide concentrations ($\mu\text{g}/\text{m}^3$) did not correlate with change in total SNOT-22 or SF-6D scores after treatment. Nevertheless, sulfur dioxide (SNOT-22: ρ = -0.121 [95% CI: -0.210, -0.030]; p = 0.007; SF-6D: ρ = 0.095 [95% CI: 0.002, 0.186]; p = 0.04) and carbon monoxide (SNOT-22: ρ = -0.141 [95% CI: -0.230, 0.050]; p = 0.002) exposure did correlate with these outcome measures.

Conclusion: Air pollutants may contribute, at least in part, to disease severity in CRS; future investigation is needed to further elucidate the nature of this relationship.

Keywords: chronic rhinosinusitis; endoscopic sinus surgery; particulate matter; patient reported outcome measures; pollution; quality of life.

© 2023 The Authors. International Forum of Allergy & Rhinology published by Wiley Periodicals LLC on behalf of American Academy of Otolaryngic Allergy and American Rhinologic Society.

- [37 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substances, Grants and funding expand

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

21

Scand J Immunol

•
•
•

. 2024 Mar 31:e13367.

doi: 10.1111/sji.13367. Online ahead of print.

Mite-negative allergic rhinitis: A model of the regulation mechanism of atopy onset

[Yasuhiro Horiuchi](#)¹

Affiliations [expand](#)

- PMID: 38556807
- DOI: [10.1111/sji.13367](https://doi.org/10.1111/sji.13367)

No abstract available

- [10 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS

chronic cough

1

Med J Aust

-
-
-

. 2024 Apr 4.

doi: 10.5694/mja2.52276. Online ahead of print.

[Cough in Children and Adults: Diagnosis, Assessment and Management \(CICADA\). Summary of an updated position statement on chronic cough in Australia](#)

[David A Prentice](#)¹

Affiliations expand

- PMID: 38572765
- DOI: [10.5694/mja2.52276](https://doi.org/10.5694/mja2.52276)

No abstract available

Keywords: Aortic diseases; Computed tomography; Diagnosis; Immunology; Neuroanatomy.

- [5 references](#)

SUPPLEMENTARY INFO

Publication types expand

FULL TEXT LINKS

[Proceed to details](#)

Cite

Share

2

Med J Aust

•
•
•

. 2024 Apr 4.

doi: 10.5694/mja2.52268. Online ahead of print.

[Cough in Children and Adults: Diagnosis, Assessment and Management \(CICADA\). Summary of an updated position statement on chronic cough in Australia](#)

[Richard Turner](#)¹, [Surinder Biring](#)^{2,3}

Affiliations expand

- PMID: 38571453
- DOI: [10.5694/mja2.52268](https://doi.org/10.5694/mja2.52268)

No abstract available

Keywords: Respiration disorders.

- [5 references](#)

SUPPLEMENTARY INFO

Publication typesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Med J Aust



. 2024 Apr 4.

doi: 10.5694/mja2.52269. Online ahead of print.

[Cough in Children and Adults: Diagnosis, Assessment and Management \(CICADA\). Summary of an updated position statement on chronic cough in Australia](#)

[Julie M Marchant](#)^{1,2}, [Anne B Chang](#)^{1,2,3}, [Peter Ab Wark](#)^{4,5}

Affiliations expand

- PMID: 38571452
- DOI: [10.5694/mja2.52269](https://doi.org/10.5694/mja2.52269)

No abstract available

Keywords: Bronchitis; Respiratory function.

- [5 references](#)

SUPPLEMENTARY INFO

Publication types [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

Ann Med Surg (Lond)

-
-
-

. 2024 Feb 19;86(4):1836-1842.

doi: 10.1097/MS9.0000000000001848. eCollection 2024 Apr.

[Unveiling the complexity of right middle lobe syndrome: a case series highlighting the association with asthma](#)

[Eman Shhada](#)¹, [Ali Alakbar Nahle](#)², [Hussein Hamdar](#)², [Alaa Jlailati](#)², [Ali Jawad](#)², [Zeinab Nahle](#)³, [Sawssan Ali](#)⁴

Affiliations [expand](#)

- PMID: 38576953
- PMCID: [PMC10990357](#)

- DOI: [10.1097/MS9.0000000000001848](https://doi.org/10.1097/MS9.0000000000001848)

Abstract

Introduction and importance: Right middle lobe syndrome (MLS) is a rare lung disorder primarily affecting children with a history of asthma or atopy. It encompasses a range of pathological and clinical conditions, from recurrent collapses of the middle lobe to bronchiectasis. In this study, the authors present a case series featuring four individuals with MLS associated with asthma, aiming to deepen our understanding of this uncommon condition.

Case presentation: Four paediatric patients with right MLS exhibited symptoms of persistent cough, dyspnoea, and recurrent asthma exacerbations. Radiographic evaluations confirmed features consistent with right MLS, and bronchoscopy revealed mucus plugs and oedematous airways obstructing the right middle lobe bronchus. Treatment with bronchodilators, antibiotics, and corticosteroids led to symptom improvement and resolution of atelectasis.

Clinical discussion: MLS is a rare condition characterized by chronic collapse of the right middle lobe and bronchiectasis. It is challenging to diagnose MLS, but computed tomography (CT) scans provide detailed lung images for confirmation. Treatment focuses on addressing the underlying cause, such as infections or mucus obstruction. Lobectomy may be considered in severe cases. This case series emphasizes the need for further research on MLS, as its rarity and characteristics remain unclear.

Conclusion: These cases exhibited obstructive MLS with and without asthma. Accurate diagnosis is challenging, requiring imaging techniques. MLS has clinical implications, particularly in asthma patients. Future studies should focus on understanding the aetiology of non-obstructive MLS.

Keywords: asthma; case series; paediatric; right middle lobe; right middle lobe syndrome.

Copyright © 2024 The Author(s). Published by Wolters Kluwer Health, Inc.

Conflict of interest statement

The authors declare that they have no competing interests. Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

- [25 references](#)
- [12 figures](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

Editorial

Clin Transl Allergy



. 2024 Apr;14(4):e12340.

doi: 10.1002/ct2.12340.

[Real-world drug use in asthma, chronic obstructive pulmonary disease, rhinitis, cough, and cold in Finland from 1990 to 2021: Association with reduced disease burden](#)

[Tiina Mattila](#)^{1,2}, [Vesa Jormanainen](#)^{2,3}, [Marina Erhola](#)⁴, [Tuula Vasankari](#)^{5,6}, [Sanna Toppila-Salmi](#)^{7,8}, [Fredrik Herse](#)⁹, [Riikka-Leena Leskelä](#)⁹, [Tari Haahtela](#)⁷

Affiliations expand

- PMID: 38558358
- PMCID: [PMC10984349](#)
- DOI: [10.1002/ct2.12340](#)

No abstract available

Keywords: COPD; asthma; health economics; public health; respiratory medications.

Conflict of interest statement

The authors do not have any relevant conflicts of interest concerning the submitted work.

- [10 references](#)
- [2 figures](#)

SUPPLEMENTARY INFO

Publication types, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Respir Med

-
-
-

. 2024 Apr;224:107582.

doi: 10.1016/j.rmed.2024.107582. Epub 2024 Feb 28.

[Validity and reliability of the Swedish version of the Leicester Cough Questionnaire in unexplained chronic cough](#)

[Ewa Ternesten-Hasséus¹](#), [Ewa-Lena Johansson Corresponding author²](#)

Affiliations expand

- PMID: 38428509
- DOI: [10.1016/j.rmed.2024.107582](https://doi.org/10.1016/j.rmed.2024.107582)

Free article

Abstract

Background: Cough is considered chronic when it lasts for >8 weeks. When no medical explanation can be found it is often called unexplained chronic cough (UCC), which may affect health-related quality of life (HRQOL). This study aimed to assess the validity and reliability of the Swedish version of the Leicester Cough Questionnaire (LCQ-S) in patients with UCC.

Methods: Seventy-six consecutively selected patients with UCC replied to: a local questionnaire; the LCQ-S; a Visual Analog Scale (VAS) for cough; the Swedish version of the Hull Airway Reflux Questionnaire (HARQ-S); and the Chemical Sensitivity Scale for Sensory Hyperreactivity (CSS-SHR). To evaluate the reproducibility of the LCQ-S, the VAS and LCQ-S were answered again after two to four weeks.

Results: Seventy-four patients (17 men) answered the questionnaires at baseline. Concurrent validity for LCQ-S was regarded as moderate with the VAS for cough and HARQ-S. Internal consistency using Cronbach's alpha was high for the LCQ-S total score (0.92) and satisfactory for the LCQ-S domains (0.78-0.83). Reliability and reproducibility were analysed in 57 patients (14 men). Intra-class correlation for the LCQ-S total score and domains showed strong reliability (≥ 0.92), without any significant differences over time. The standard error of measurement and the smallest real difference were 1.26 and 3.49, respectively. The Bland-Altman plot showed no systematic change in the mean values.

Conclusions: The LCQ-S has good validity and reliability and can be used in clinical settings to evaluate HRQOL in Swedish-speaking adult patients with UCC.

Keywords: Chronic cough; Health-related quality of life questionnaire; Patient-reported outcome; Unexplained chronic cough.

Copyright © 2024 The Authors. Published by Elsevier Ltd.. All rights reserved.

Conflict of interest statement

Declaration of competing interest There is no conflict of interest. Kindly proceed.

SUPPLEMENTARY INFO

MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

Practice Guideline

Arch Bronconeumol

-
-
-

. 2024 Apr;60(4):226-237.

doi: 10.1016/j.arbres.2024.01.013. Epub 2024 Feb 1.

[Multidisciplinary Management of Patients With Chronic Obstructive Pulmonary Disease and Cardiovascular Disease](#)

[Article in English, Spanish]

[Javier de Miguel-Díez](#)¹, [Julio Núñez Villota](#)², [Salud Santos Pérez](#)³, [Nicolás Manito Lorite](#)⁴, [Bernardino Alcázar Navarrete](#)⁵, [Juan Francisco Delgado Jiménez](#)⁶, [Juan José Soler-Cataluña](#)⁷, [Domingo Pascual Figal](#)⁸, [Patricia Sobradillo Ecenarro](#)⁹, [Juan José Gómez Doblas](#)¹⁰

Affiliations expand

- PMID: 38383272

- DOI: [10.1016/j.arbres.2024.01.013](https://doi.org/10.1016/j.arbres.2024.01.013)

Free article

Abstract

Chronic obstructive pulmonary disease (COPD) and cardiovascular disease (CVD) frequently coexist, increasing the prevalence of both entities and impacting on symptoms and prognosis. CVD should be suspected in patients with COPD who have high/very high risk scores on validated scales, frequent exacerbations, precordial pain, disproportionate dyspnea, or palpitations. They should be referred to cardiology if they have palpitations of unknown cause or angina pain. COPD should be suspected in patients with CVD if they have recurrent bronchitis, cough and expectoration, or disproportionate dyspnea. They should be referred to a pulmonologist if they have rhonchi or wheezing, air trapping, emphysema, or signs of chronic bronchitis. Treatment of COPD in cardiovascular patients should include long-acting muscarinic receptor antagonists (LAMA) or long-acting beta-agonists (LABA) in low-risk or high-risk non-exacerbators, and LAMA/LABA/inhaled corticosteroids in exacerbators who are not controlled with bronchodilators. Cardioselective beta-blockers should be favored in patients with CVD, the long-term need for amiodarone should be assessed, and antiplatelet drugs should be maintained if indicated.

Keywords: Cardiopulmonary risk; Cardiovascular disease; Chronic obstructive pulmonary disease; Comorbidities; Exacerbations.

Copyright © 2024 The Authors. Published by Elsevier España, S.L.U. All rights reserved.

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances expand

FULL TEXT LINKS

FULL TEXT AT
Archivos de Bronconeumología

ELSEVIER
OPEN ACCESS

UNIMORE 

[Proceed to details](#)

Cite

Share

8

[Review](#)



Beyond breathing: Systematic review of global chronic obstructive pulmonary disease guidelines for pain management

[Kaelee Brockway](#)¹, [Shakeel Ahmed](#)²

Affiliations expand

- PMID: 38350512
- DOI: [10.1016/j.rmed.2024.107553](https://doi.org/10.1016/j.rmed.2024.107553)

Abstract

Context: Patients with chronic obstructive pulmonary disease (COPD) experience pain as both symptom and comorbidity. There has been no evaluation of the recommendations for pain management in updated clinical practice guidelines (CPGs).

Objectives: Update the evidence on pain management, determine alignment of pain management recommendations with best-practice, and advocate for optimal pain management in patients with COPD.

Methods: PubMed, Guideline International Network, Guideline Portal, Agency for Healthcare Research and Quality, National Institute for Healthcare Excellence, Scottish International Guidelines Network, Institute of Medicine, grey literature, national websites, and bibliographies were searched. CPGs available online for stable COPD produced by organizations representing reputable knowledge of COPD management were included. CPGs unavailable online, not translatable into English, or not including techniques within the defined scope were excluded. Researchers performed frequency counts for the verbatim terms "pain," "physical activity," "exercise," "rehabilitation," "physical

therap(ist)/(y), "physiotherap(ist)/(y)," recorded context, and collected recommendations for pain management/treatment when present.

Results: Of 32 CPGs, 24 included "pain" verbatim. Of these, 13 included recommendations for pain treatment/management. Common recommendations included opioids, pharmacological management, further medical assessment, and surgical intervention. Two CPGs referred to palliative care, one CPG discussed treating cough, and one discussed massage, relaxation, and breathing.

Conclusions: Pain management recommendations vary and are not aligned with evidence. Pain should be addressed in patients with COPD, whether directly or indirectly related to the disease. Reduction of variability in pain management and the disease burden is necessary. Pain management should include referrals to providers who can maximize benefit of their services.

Keywords: Chronic disease; Chronic obstructive pulmonary disease; Pain management; Systematic review.

Copyright © 2024 Elsevier Ltd. All rights reserved.

Conflict of interest statement

Declaration of competing interest There is no conflict of interest.

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

[Review](#)

Qual Life Res

•

. 2024 Apr;33(4):903-916.

doi: 10.1007/s11136-023-03556-1. Epub 2023 Dec 28.

Chronic cough: more than just a persistent cough: a systematic literature review to understand the impact of chronic cough on quality of life

[Vishal Bali](#)^{1,2}, [Ada Adriano](#)³, [Aidan Byrne](#)³, [Katherine G Akers](#)⁴, [Andrew Frederickson](#)⁴, [Jonathan Schelfhout](#)⁵

Affiliations expand

- PMID: 38153616
- DOI: [10.1007/s11136-023-03556-1](https://doi.org/10.1007/s11136-023-03556-1)

Abstract

Purpose: Chronic cough (CC), defined as a cough persisting ≥ 8 weeks, can have a substantial negative impact on health-related quality of life (HRQoL). This is exacerbated by challenges with timely diagnosis and a lack of approved therapies. A systematic literature review (SLR) was conducted to identify evidence on HRQoL and health state utility values associated with refractory CC or unexplained CC.

Methods: Electronic database searches were supplemented with searches of conference proceedings and health technology assessment body websites. Two independent reviewers assessed all citations for inclusion based on predefined inclusion/exclusion criteria. Key inclusion criteria were patient populations with CC and reporting of patient-reported outcomes or utilities using generic or disease-specific measures.

Results: Following screening, 65 studies were identified for inclusion in the SLR. Of these, 23 studies assessed HRQoL among patients with CC who were not treated or treated with unspecified interventions, and 42 studies in patients who were treated with specified interventions. The studies indicated a substantial decrement to HRQoL as a result of CC, characterized by generic and disease-specific patient-reported outcome measures. HRQoL

was impacted across multiple domains, including physical, psychological, and social functioning. The studies also demonstrated the potential for treatments to have a significant positive impact on HRQoL.

Conclusions: CC can substantially affect HRQoL in patients, across physical, psychological, and social domains. Although treatments can improve HRQoL in these patients, the available evidence is limited. There remains an unmet need for approved pharmacological treatments to alleviate CC and improve HRQoL for these patients.

Keywords: Burden; Chronic cough; Health-related quality of life; Quality of life; Refractory chronic cough; Unexplained chronic cough.

© 2023. The Author(s), under exclusive licence to Springer Nature Switzerland AG.

- [Cited by 1 article](#)
- [62 references](#)

SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

10

Laryngoscope

-
-
-

. 2024 Apr;134(4):1773-1777.

doi: 10.1002/lary.31061. Epub 2023 Sep 26.

The Role of Bilateral Superior Laryngeal Nerve Block in Managing Refractory Chronic Cough

[Brooke A Quinton](#)¹, [William S Tierney](#)², [Michael S Benninger](#)², [Rebecca C Nelson](#)², [Victoria L Gau](#)², [Candace M Hrelec](#)², [Paul C Bryson](#)^{1,2}

Affiliations expand

- PMID: 37750560
- DOI: [10.1002/lary.31061](https://doi.org/10.1002/lary.31061)

Abstract

Objective(s): The aim was to investigate the utilization and efficacy of bilateral superior laryngeal nerve block in patients with refractory chronic cough.

Methods: A retrospective chart review of 164 patients with refractory chronic cough who underwent bilateral SLN block at a single institution between November 2018 and September 2022 was performed. Demographics, comorbidities, and patient-reported outcomes including pre- and postinjection Leicester Cough Questionnaire (LCQ) scores were collected and analyzed.

Results: The cohort underwent an average of 2.97 bilateral injections (range 1-22), containing either corticosteroid and local anesthetic or corticosteroid alone. Notably, 116 of 164 of patients reported an average of 67.3% reduction in their symptoms, with the treatment effect lasting 7.60 weeks on average. The average pre- and postinjection LCQ scores were 9.70 and 13.82, respectively. A lower LCQ score represents a greater impairment of health status due to cough, and the minimum important change is 1.3 points between questionnaires. The average improvement on LCQ following bilateral SLN block was 4.11 points for this cohort.

Conclusion: The use of in-office bilateral SLN block is an effective treatment that can be used alone or in conjunction with oral medications for the treatment of refractory chronic cough.

Level of evidence: 4 Laryngoscope, 134:1773-1777, 2024.

Keywords: laryngeal hypersensitivity; laryngology; refractory chronic cough; superior laryngeal nerve block.

© 2023 The Authors. The Laryngoscope published by Wiley Periodicals LLC on behalf of The American Laryngological, Rhinological and Otological Society, Inc.

- [Cited by 1 article](#)
- [15 references](#)

SUPPLEMENTARY INFO

MeSH terms, Substancesexpand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

11

Indian J Pediatr

-
-
-

. 2024 Apr;91(4):337-343.

doi: 10.1007/s12098-023-04632-7. Epub 2023 Jun 8.

[Evaluation of Chronic Cough in Children Using Management Algorithm: A Prospective Cohort Study](#)

[Nikhil Rajvanshi](#)¹, [Prawin Kumar](#)¹, [Jagdish Prasad Goyal](#)²

Affiliations expand

- PMID: 37289310
- DOI: [10.1007/s12098-023-04632-7](https://doi.org/10.1007/s12098-023-04632-7)

Abstract

Objective: To assess the use of a standardized evaluation algorithm [American College of Chest Physician (ACCP) 2006] in children with chronic cough.

Methods: In this prospective cohort study, children with chronic cough were evaluated as per the ACCP 2006 diagnostic algorithm. All children were followed regularly at an interval of 2-4 wk. The study's endpoint was for the patient being cough free for four weeks either following treatment or naturally.

Results: The mean age of the 87 studied children (52 male, 35 female) was 11.9 ± 3 y. Forty children (45.9%) had specific cough pointers on history and examination. Radiograph showed abnormalities in 12 (13.8%) children, and spirometry showed a reversible obstructive pattern on spirometry in 6 (6.9%) among 47 (54%) children without specific cough pointers. After a detailed evaluation, 16 (18.3%) children had no remarkable findings and were reviewed after two weeks. Spontaneous resolution of cough occurred in 6 children. A trial of inhalational corticosteroids (ICS) (9 children) or antibiotics (1 child) was given to the rest of the ten children. Specific underlying diagnoses could be established in 80 (91.9%) children. The most common etiology identified in the study was asthma and asthma-like illnesses ($n = 52$; 59.8%), followed by upper airway cough syndrome ($n = 13$; 14.9%) and tuberculosis ($n = 9$; 10.4%). Eighty-four (96.5%) children had complete resolution of cough during follow-up. The mean time to resolution in the study was 33.6 ± 16.8 d.

Conclusions: This study demonstrated that the ACCP 2006 algorithm is effective in establishing the underlying etiology and managing children with chronic cough.

Keywords: ACCP algorithm; Chronic cough; Management.

© 2023. The Author(s), under exclusive licence to Dr. K C Chaudhuri Foundation.

- [16 references](#)

SUPPLEMENTARY INFO

MeSH terms, Supplementary conceptsexpand

FULL TEXT LINKS



"bronchiectasis"[MeSH Terms] OR bronchiectasis[Text Word]

1

Farm Hosp

•
•
•

. 2024 Apr 5:S1130-6343(24)00026-6.

doi: 10.1016/j.farma.2024.02.006. Online ahead of print.

Pharmaceutical care in respiratory diseases: Current situation and opportunities for Hospital Pharmacy in Spain

[Article in English, Spanish]

[Noé Garin](#)¹, [Borja Zarate-Tamames](#)², [Sonia Jornet](#)³, [Eva María García](#)⁴, [María Del Mar López-Gil](#)⁵, [Gregorio Romero](#)⁶, [Jorge Del Estal](#)⁷; [Grupo de trabajo AFANES](#)

Affiliations expand

- PMID: 38580504
- DOI: [10.1016/j.farma.2024.02.006](https://doi.org/10.1016/j.farma.2024.02.006)

Abstract

Objective: Respiratory diseases present a challenge for the healthcare system due to their prevalence and clinical impact. The aim of this study was to explore the current situation of hospital pharmacy in the field of respiratory diseases.

Method: Observational, cross-sectional study, with a national scope, divided into 2 parts. In an initial phase, the activity and level of pharmaceutical care in respiratory diseases was evaluated through an online questionnaire using REDCap. The survey was addressed to department chiefs and consisted of 17 items, divided into 2 modules: general data and

general activity. The second phase was open to hospital pharmacists, with the aim of exploring their opinion on care, training, and improvement needs. The number of items in this phase was 19, divided into 5 modules: general data, pharmaceutical care, competencies, training and degree of satisfaction.

Results: In the first phase, 23 hospitals were included. Most of them (n=20) had a pharmacist in charge of respiratory diseases. However, a large proportion of them dedicated less than 40% of their working day to this activity. The pharmacist's activity occurred at the level of external patients (n=20), hospitalized patients (n=16), and secondarily in management (n=8). Integration is greater in pathologies such as asthma, IPF, pulmonary hypertension, and bronchiectasis. Participation in committees was present in 15 hospitals, with variability in pathologies and degree of involvement. In the second phase, 164 pharmacists participated, who considered pharmaceutical care in cystic fibrosis, asthma and lung transplant as a priority. Fifty-one percent considered integration to be adequate and 91% considered it necessary to implement prioritization criteria. Professional competencies ranged from 6.5-6.9 out of 10 points. Only 45% of participants had received specific training in the last four years, indicating greater priority for asthma, pulmonary hypertension and IPF.

Conclusions: Most centers have pharmacists specialized in respiratory diseases. However, there is room for improvement in terms of sub specialization, participation in multidisciplinary committees, implementation of prioritization criteria, diversification in pathologies treated, as well as greater specific training in this area.

Keywords: Atención farmacéutica; Competencia profesional; Education; Enfermedades respiratorias; Formación; Manejo de la medicación; Medication therapy management; Neumología; Pharmaceutical care; Pneumonology; Professional competence; Respiratory diseases.

Copyright © 2024. Publicado por Elsevier España, S.L.U.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

2

Am J Respir Crit Care Med

•

•
•

. 2024 Apr 5.

doi: 10.1164/rccm.202403-0476LE. Online ahead of print.

Reply to Chen et al.: Reexamining COPD in Bronchiectasis: Elucidating Overdiagnosis and Outcomes from EMBARC's ROSE Criteria

[James D Chalmers](#)¹, [Anthony De Soyza](#)², [Stefano Aliberti](#)³, [Eva Polverino](#)⁴

Affiliations expand

- PMID: 38579281
- DOI: [10.1164/rccm.202403-0476LE](https://doi.org/10.1164/rccm.202403-0476LE)

No abstract available

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

3

Am J Respir Crit Care Med

•
•
•

. 2024 Apr 5.

doi: 10.1164/rccm.202402-0289LE. Online ahead of print.

Reexamining COPD in Bronchiectasis: Elucidating Overdiagnosis and Outcomes from EMBARC's ROSE Criteria

[Yen-Fu Chen](#)¹, [Jung-Yien Chien](#)², [Hao-Chien Wang](#)³, [Chong-Jen Yu](#)⁴

Affiliations expand

- PMID: 38579279
- DOI: [10.1164/rccm.202402-0289LE](https://doi.org/10.1164/rccm.202402-0289LE)

No abstract available

Keywords: Bronchiectasis; COPD; ROSE criteria.

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

4

Clin Infect Dis

-
-
-

. 2024 Apr 2:ciae131.

doi: 10.1093/cid/ciae131. Online ahead of print.

Improvement in Health-Related Quality of Life Following Antibiotic Treatment

in Nontuberculous Mycobacterial Pulmonary Disease: Initial Analysis of the NTM-KOREA Cohort

[Nakwon Kwak](#)^{1,2}, [Emily Henkle](#)³, [Hyeontaek Hwang](#)⁴, [Doosoo Jeon](#)⁵, [Byung Woo Jhun](#)⁶, [Kyung-Wook Jo](#)⁷, [Young Ae Kang](#)⁸, [Hyung-Jun Kim](#)^{2,9}, [Joong-Yub Kim](#)^{1,2}, [Young Ran Kim](#)¹⁰, [Yong-Soo Kwon](#)¹¹, [Jae Ho Lee](#)^{2,9}, [Jeongha Mok](#)¹², [Youngmok Park](#)⁸, [Tae Sun Shim](#)⁷, [Hojoon Sohn](#)¹³, [Jake Whang](#)¹⁴, [Jae-Joon Yim](#)^{1,2}

Affiliations expand

- PMID: 38563246
- DOI: [10.1093/cid/ciae131](https://doi.org/10.1093/cid/ciae131)

Abstract

Background: Improving health-related quality of life (HRQOL) has emerged as a priority in the management of nontuberculous mycobacterial pulmonary disease (NTM-PD). We aimed to evaluate HRQOL and its changes after 6 months' treatment in patients with NTM-PD.

Methods: The NTM-KOREA is a nationwide prospective cohort enrolling patients initiating treatment for NTM-PD in 8 institutions across South Korea. We conducted the Quality of Life-Bronchiectasis (QOL-B) at 6-month intervals and evaluated baseline scores (higher scores indicate better quality of life) and changes after 6 months' treatment. Multivariate logistic regression was performed to identify factors associated with improvement in the QOL-B physical functioning and respiratory symptoms domains.

Results: Between February 2022 and August 2023, 411 patients were included in the analysis. Baseline scores (95% confidence interval [CI]) for physical functioning and respiratory symptoms were 66.7 (46.7-86.7) and 81.5 (70.4-92.6), respectively. Among 228 patients who completed the QOL-B after 6 months' treatment, improvements in physical functioning and respiratory symptoms were observed in 61 (26.8%) and 71 (31.1%) patients, respectively. A lower score (adjusted odds ratio; 95% CI) for physical functioning (0.93; 0.91-0.96) and respiratory symptoms (0.92; 0.89-0.95) at treatment initiation was associated with a greater likelihood of physical functioning and respiratory symptom improvement, respectively; achieving culture conversion was not associated with improvement in physical functioning (0.62; 0.28-1.39) or respiratory symptoms (1.30; 0.62-2.74).

Conclusions: After 6 months of antibiotic treatment for NTM-PD, HRQOL improved in almost one-third, especially in patients with severe initial symptoms, regardless of culture conversion.

Clinical trials registration: ClinicalTrials.gov identifier: [NCT03934034](https://clinicaltrials.gov/ct2/show/study/NCT03934034).

Keywords: health-related quality of life; improvement; nontuberculous mycobacteria; outcome; treatment.

© The Author(s) 2024. Published by Oxford University Press on behalf of Infectious Diseases Society of America. All rights reserved. For commercial re-use, please contact reprints@oup.com for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact journals.permissions@oup.com.

Conflict of interest statement

Potential conflicts of interest. E. H. has served on advisory boards for AN2 and Mannkind, and as a consultant for AN2 (all outside the submitted work). All other authors report no potential conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

SUPPLEMENTARY INFO

Associated data, Grants and funding [expand](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

5

Ann Med Surg (Lond)

-
-
-

. 2024 Feb 19;86(4):1836-1842.

Unveiling the complexity of right middle lobe syndrome: a case series highlighting the association with asthma

[Eman Shhada](#)¹, [Ali Alakbar Nahle](#)², [Hussein Hamdar](#)², [Alaa Jlailati](#)², [Ali Jawad](#)², [Zeinab Nahle](#)³, [Sawssan Ali](#)⁴

Affiliations expand

- PMID: 38576953
- PMCID: [PMC10990357](#)
- DOI: [10.1097/MS9.0000000000001848](#)

Abstract

Introduction and importance: Right middle lobe syndrome (MLS) is a rare lung disorder primarily affecting children with a history of asthma or atopy. It encompasses a range of pathological and clinical conditions, from recurrent collapses of the middle lobe to bronchiectasis. In this study, the authors present a case series featuring four individuals with MLS associated with asthma, aiming to deepen our understanding of this uncommon condition.

Case presentation: Four paediatric patients with right MLS exhibited symptoms of persistent cough, dyspnoea, and recurrent asthma exacerbations. Radiographic evaluations confirmed features consistent with right MLS, and bronchoscopy revealed mucus plugs and oedematous airways obstructing the right middle lobe bronchus. Treatment with bronchodilators, antibiotics, and corticosteroids led to symptom improvement and resolution of atelectasis.

Clinical discussion: MLS is a rare condition characterized by chronic collapse of the right middle lobe and bronchiectasis. It is challenging to diagnose MLS, but computed tomography (CT) scans provide detailed lung images for confirmation. Treatment focuses on addressing the underlying cause, such as infections or mucus obstruction. Lobectomy

may be considered in severe cases. This case series emphasizes the need for further research on MLS, as its rarity and characteristics remain unclear.

Conclusion: These cases exhibited obstructive MLS with and without asthma. Accurate diagnosis is challenging, requiring imaging techniques. MLS has clinical implications, particularly in asthma patients. Future studies should focus on understanding the aetiology of non-obstructive MLS.

Keywords: asthma; case series; paediatric; right middle lobe; right middle lobe syndrome.

Copyright © 2024 The Author(s). Published by Wolters Kluwer Health, Inc.

Conflict of interest statement

The authors declare that they have no competing interests. Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

- [25 references](#)
- [12 figures](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

6

Open Forum Infect Dis

-
-
-

. 2024 Mar 1;11(4):ofae122.

doi: 10.1093/ofid/ofae122. eCollection 2024 Apr.

[Epidemiology, Timing, and Secondary Prophylaxis of Recurrent Nocardiosis](#)

[Zachary A Yetmar](#)^{1,2}, [Ryan B Khodadadi](#)¹, [Supavit Chesdachai](#)¹, [Jack W McHugh](#)¹, [Douglas W Challenger](#)¹, [Nancy L Wengenack](#)³, [Wendelyn Bosch](#)⁴, [Maria Teresa Seville](#)⁵, [Elena Beam](#)¹

Affiliations expand

- PMID: 38560606
- PMCID: [PMC10977627](#)
- DOI: [10.1093/ofid/ofae122](#)

Abstract

Background: *Nocardia* tends to cause infection in immunocompromised patients or those with chronic pulmonary disease. *Nocardia* is known to recur, prompting the practice of secondary prophylaxis in patients perceived at high risk. However, few data exist regarding the epidemiology of recurrent nocardiosis or the effectiveness of secondary prophylaxis.

Methods: We performed a multicenter, retrospective cohort study of adults diagnosed with nocardiosis from November 2011 to April 2022, including patients who completed primary treatment and had at least 30 days of posttreatment follow-up. Propensity score matching was used to analyze the effect of secondary prophylaxis on *Nocardia* recurrence.

Results: Fifteen of 303 (5.0%) patients developed recurrent nocardiosis after primary treatment. Most recurrences were diagnosed either within 60 days (N = 6/15, 40.0%) or between 2 to 3 years (N = 4/15, 26.7%). Patients with primary disseminated infection tended to recur within 1 year, whereas later recurrences were often nondisseminated pulmonary infection. Seventy-eight (25.7%) patients were prescribed secondary prophylaxis, mostly trimethoprim-sulfamethoxazole (N = 67/78). After propensity-matching, secondary prophylaxis was not associated with reduced risk of recurrence (hazard ratio, 0.96; 95% confidence interval, .24-3.83), including in multiple subgroups. Eight (53.3%) patients with recurrent nocardiosis required hospitalization and no patients died from recurrent infection.

Conclusions: Recurrent nocardiosis tends to occur either within months because of the same *Nocardia* species or after several years with a new species. Although we did not find evidence for the effectiveness of secondary prophylaxis, the confidence intervals were wide. However, outcomes of recurrent nocardiosis are generally favorable and may not justify long-term antibiotic prophylaxis for this indication alone.

Keywords: Nocardia; bronchiectasis; reinfection; relapse; trimethoprim-sulfamethoxazole.

© The Author(s) 2024. Published by Oxford University Press on behalf of Infectious Diseases Society of America.

Conflict of interest statement

Potential conflicts of interest. All authors: No reported conflicts.

- [29 references](#)
- [1 figure](#)

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

7

Editorial

Ann Am Thorac Soc

-
-
-

. 2024 Apr;21(4):543-545.

doi: 10.1513/AnnalsATS.202402-129ED.

[Nonantibiotic Management of Nontuberculous Mycobacteria in Non-Cystic Fibrosis Bronchiectasis: Natural or Nonsense?](#)

[Katherine B Hisert](#)¹, [Jerry A Nick](#)¹

Affiliations expand

- PMID: 38557420
- DOI: [10.1513/AnnalsATS.202402-129ED](https://doi.org/10.1513/AnnalsATS.202402-129ED)

No abstract available

Comment on

- [OPTIMA: An Open-Label, Noncomparative Pilot Trial of Inhaled Molgramostim in Pulmonary Nontuberculous Mycobacterial Infection.](#)
Thomson RM, Loebinger MR, Burke AJ, Morgan LC, Waterer GW, Ganslandt C. *Ann Am Thorac Soc.* 2024 Apr;21(4):568-576. doi: 10.1513/AnnalsATS.202306-532OC. PMID: 37948736

SUPPLEMENTARY INFO

Publication types, MeSH terms, Substances, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

8

Ann Am Thorac Soc

-
-
-

. 2024 Apr;21(4):568-576.

doi: 10.1513/AnnalsATS.202306-532OC.

[OPTIMA: An Open-Label, Noncomparative Pilot Trial of Inhaled Molgramostim in Pulmonary](#)

Nontuberculous Mycobacterial Infection

[Rachel M Thomson](#)^{1,2,3}, [Michael R Loebinger](#)⁴, [Andrew J Burke](#)^{1,3}, [Lucy C Morgan](#)⁵, [Grant W Waterer](#)⁶, [Cecilia Ganslandt](#)⁷

Affiliations expand

- PMID: 37948736
- DOI: [10.1513/AnnalsATS.202306-532OC](https://doi.org/10.1513/AnnalsATS.202306-532OC)

Abstract

Rationale: Inhaled granulocyte-macrophage colony-stimulating factor (GM-CSF) has been proposed as a potential immunomodulatory treatment for nontuberculous mycobacterial (NTM) infection. **Objectives:** This open-label, noncomparative pilot trial investigated the efficacy and safety of inhaled GM-CSF (molgramostim nebulizer solution) in patients with predominantly treatment-refractory pulmonary NTM infection (*Mycobacterium avium* complex [MAC] and *M. abscessus* [MABS]), either in combination with ongoing guideline-based therapy (GBT) or as monotherapy in patients who had stopped GBT because of lack of efficacy or intolerability. **Methods:** Thirty-two adult patients with refractory NTM infection (MAC, $n = 24$; MABS, $n = 8$) were recruited into two cohorts: those with ($n = 16$) and without ($n = 16$) ongoing GBT. Nebulized molgramostim 300 $\mu\text{g}/\text{d}$ was administered over 48 weeks. Sputum cultures and smears and clinical assessments (6-min-walk distance, symptom scores, Quality of Life-Bronchiectasis Questionnaire score, and body weight) were collected every 4 weeks during treatment and 12 weeks after the end of treatment. The primary endpoint was sputum culture conversion, defined as three consecutive monthly negative cultures during the treatment period. **Results:** Eight patients (25%) achieved culture conversion on treatment (seven [29.2%] patients with MAC infection, one [12.5%] patient with MABS infection); in four patients, this was durable after the end of treatment. Of the 24 patients with MAC infection, an additional 4 patients had a partial response, converting from smear positive at baseline to smear negative at the end of treatment, and time to positivity in liquid culture media increased. Two of these patients sustained negative cultures from the end of treatment. Other clinical endpoints were unchanged. Serious adverse events were mainly pulmonary exacerbations or worsening NTM infection. Three deaths, not treatment related, were reported. **Conclusions:** In this population of patients with severe NTM disease, molgramostim was safe and well tolerated. Sputum culture conversion rates for patients with MAC infection (29.2%) were greater than reported for similar refractory MAC cohorts managed with GBT alone. Less benefit was seen for MABS infection. No serious safety concerns were identified. Further

evaluation in a larger cohort is warranted. Clinical trial registered with www.clinicaltrials.gov ([NCT03421743](https://clinicaltrials.gov/ct2/show/study/NCT03421743)).

Keywords: granulocyte–macrophage colony-stimulating factor; mycobacteria; treatment.

Comment in

- [Nonantibiotic Management of Nontuberculous Mycobacteria in Non-Cystic Fibrosis Bronchiectasis: Natural or Nonsense?](#)
Hisert KB, Nick JA. *Ann Am Thorac Soc*. 2024 Apr;21(4):543-545. doi: 10.1513/AnnalsATS.202402-129ED. PMID: 38557420 No abstract available.

SUPPLEMENTARY INFO

MeSH terms, Substances, Associated data, Grants and funding expand

FULL TEXT LINKS



[Proceed to details](#)

Cite

Share

9

Int Forum Allergy Rhinol

-
-
-

. 2024 Apr;14(4):866-869.

doi: 10.1002/alr.23254. Epub 2023 Aug 22.

[Primary ciliary dyskinesia: An update on contemporary diagnosis](#)

[Mark B Chaskes](#)¹, [Erin Mamuyac Lopez](#)¹, [K Albert Kong](#)¹, [Charles S Ebert Jr](#)¹, [Brent A Senior](#)¹, [Brian D Thorp](#)¹, [Adam J Kimple](#)^{1,2}

Affiliations expand

- PMID: 37565263
- DOI: [10.1002/alr.23254](https://doi.org/10.1002/alr.23254)

Abstract

Primary ciliary dyskinesia (PCD) is a complex diagnosis without a universal diagnostic test. Clinicians must have some skepticism of historic diagnoses of PCD. Clinicians should consider a diagnosis of PCD in patients with recalcitrant disease.

Keywords: chronic rhinosinusitis; ciliary motility; sinusitis.

© 2023 ARS-AAOA, LLC.

- [7 references](#)

SUPPLEMENTARY INFO

MeSH terms, Grants and funding [expand](#)

FULL TEXT LINKS

