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(copd OR "Pulmonary Disease, Chronic Obstructive"[Mesh])

1

Review

BMC Pulm Med

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. 2025 Dec 5;25(1):554.

doi: 10.1186/s12890-025-04027-8.

Allergic bronchopulmonary aspergillosis in patients with chronic obstructive pulmonary disease: a case series and literature review

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Affiliations Expand

- PMID: 41350669
- PMCID: PMC12681173
- DOI: 10.1186/s12890-025-04027-8

Abstract

Background: Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity disorder caused by Aspergillus sensitization, mostly associated with asthma, but occasionally seen in patients with chronic obstructive pulmonary disease (COPD). This study aimed to analyze the clinical features, treatment responses, and long-term follow-up of patients with ABPA-COPD overlap syndrome.

Methods: we identified 6 cases of ABPA with underlying COPD from a cohort of ABPA in our hospital. We described symptoms, imaging findings, serology tests, pulmonary functions and treatment outcomes of these cases.

Results: From January 1st, 2013 to December 31th, 2024, 63 cases of ABPA were diagnosed in our hospital, of them 6 (9.52%) were found to have underlying COPD. The 6 patients were all male, aging from 63 to 89 years, with 5 having a smoking history. The presenting symptoms included persistent cough, sputum and exertional dyspnea. The blood total IgE was markedly elevated (1230-2951 KU/L), and all tested positive for A. fumigatus-specific IgE. Blood eosinophil count was 90-1610 cells/μl. CT revealed bronchiectasis (predominantly lower lobes) and emphysema in all cases. Four patients responded well to oral corticosteroids, while 2 required omalizumab for disease control. After follow-up for 1-4 years, 4 patients remained stable, 1 had recurrent exacerbations, and 1 died due to multi-organ failure.

Conclusions: ABPA should be considered in COPD patients with persistent or recurrent respiratory symptoms, higher blood eosinophils, particularly those with bronchiectasis on chest CT. ABPA represents a treatable trait in COPD patients. While corticosteroids remain the first-line therapy, treatment-resistant cases may benefit from biologic agents.

Keywords: Allergic bronchopulmonary aspergillosis; Chronic obstructive pulmonary disease.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Clinical Research Ethics Committees of Peking University Third Hospital ((M2023784), and as it was a retrospective study, exemption from informed consent was applied. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- **30 references**
- **1 figure**

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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UNIMORE

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Cite

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NPJ Prim Care Respir Med

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. 2025 Dec 5.

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Air pollution exposure modes, smoking and genetic risk with chronic respiratory diseases: a prospective study

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- PMID: 41350531

- DOI: 10.1038/s41533-025-00469-z

Abstract

Previous studies often focused on single pollutant source, failing to replicate real-world exposure scenarios for chronic respiratory disease (CRD) risk. We aimed to explore the mixed exposure patterns of CRD risk factors and investigate interactions with smoking and genetic risk. We identified air pollution exposure modes using latent class analysis (LCA) in the UK Biobank. Cox model assessed associations between exposure modes and lung cancer (LC), idiopathic pulmonary fibrosis (IPF), chronic obstructive pulmonary disease (COPD) and asthma. Interactions among exposure modes, smoking and genetic risk were analyzed. LCA divided participants into five groups, and hazard ratios (HRs) for "High air pollution" group were 1.28 for LC (95% CI: 1.08-1.52), 1.23 for IPF (95% CI: 1.03-1.48), 1.28 for COPD (95% CI: 1.17-1.39) and 1.09 for asthma (95% CI: 1.01-1.18). Significant additive interactions between high air pollution and smoking were observed for LC and COPD. Individuals with high genetic risk exposed to both smoking and high air pollution showed the relative excess risk due to interaction (RERI) of 2.74 for LC, 3.93 for IPF, and 1.68 for COPD. Smoking and air pollution together accounted for over 40% of LC, IPF and COPD cases. Our findings highlight the complex interplay between environmental air pollution, smoking, and genetic risk in CRD development in real-world exposure scenarios.

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Conflict of interest statement

Competing interests: The authors declare no competing interests.

- 47 references

Supplementary info

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Clin Med (Lond)

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. 2025 Dec 3:100541.

doi: 10.1016/j.clinme.2025.100541. Online ahead of print.

The clinical effective of sodium/glucose co-transporter-2 inhibitors on admission frequency, duration and use of acute NIV in patients with chronic obstructive pulmonary disease. A Single-Centre 24-month retrospective observational study in a UK tertiary care centre

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- PMID: 41349641

- DOI: 10.1016/j.clinme.2025.100541

Abstract

Background: Chronic obstructive pulmonary disease (COPD) contributes significantly to global morbidity and mortality and high economic burdens to healthcare systems. Emerging evidence suggests sodium-glucose co-transporter-2 inhibitors (SGLT2i), beyond their use in type 2 diabetes mellitus (T2DM) and heart failure (HF), offer multifaceted immunomodulatory and anti-inflammatory effects which may offer positive outcomes in patients with COPD.

Objective: Investigate the impact of SGLT2i on inpatient outcomes-specifically, hospital length of stay (LOS), admission frequency, and use of acute non-invasive ventilation (NIV).

Methods: We conducted a 24-month retrospective observational study of adults with spirometry-confirmed COPD admitted to University Hospital Coventry and Warwickshire between April 2022 and April 2024. Patients receiving SGLT2i for ≥30 days prior to study start formed the treatment group. Multivariable Poisson logistic regression was used to analyse the association between SGLT2i use and key outcomes, adjusting for demographics, disease severity, co-morbidities, and concurrent therapies.

Results: 1197 admissions from 627 patients met the inclusion criteria, with 32 patients (5%) prescribed SGLT2i. SGLT2i use was associated with a statistically significant 26% reduction in hospital LOS (95% CI 0.62-0.87; p≤0.001), independent of co-existing HF or T2DM. However, there was no significant reduction in admission frequency (IRR 0.84, 95% CI: 0.62-1.09, p = 0.212) or acute NIV use (OR 2.62, 95% CI: 0.35-13.26, p = 0.277) among SGLT2i users.

Conclusions: SGLT2i therapy in COPD patients was associated with a significantly reduced hospital length of stay during exacerbations, regardless of underlying heart failure or diabetes status. However, no differences were observed in admission frequency or acute NIV utilisation. These findings support the hypothesis of a beneficial anti-inflammatory or cardiopulmonary effect of SGLT2i in COPD and warrant further investigation through prospective trials to explore their therapeutic role in this population.

Keywords: COPD exacerbation; Hospital admissions; Length of stay; SGLT2 inhibitors; Small airway disease.

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Conflict of interest statement

Declaration of competing interests 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.

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JMIR Hum Factors

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doi: 10.2196/77953.

Patient-Centered Televisit for Chronic Obstructive Pulmonary Disease Discharge Transitions: User-Centered Design Study

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- PMID: 41348960
- PMCID: PMC12680292
- DOI: 10.2196/77953

Abstract

Background: Chronic obstructive pulmonary disease (COPD) affects approximately 16 million Americans and often results in avoidable readmissions due, in part, to medication errors and lack of education. Telehealth interventions can support medication reconciliation and inhaler education following hospital discharge for patients with COPD.

Objective: This study aimed to design and prototype TELE-TOC (Telehealth Education: Leveraging Electronic Transitions of Care), a post-discharge, in-home, televisit intervention, and to map its workflow to ensure integration into the routine discharge care transition process for patients with COPD.

Methods: A user-centered design approach across 3 phases was followed to develop and prototype TELE-TOC. Participants included adult patients hospitalized for COPD exacerbations, their caregivers, clinicians involved in COPD care, and organizational leaders. Data collection methods included semi-structured interviews, system usability scale surveys, and cognitive walkthroughs of the TELE-TOC prototype to assess participants' perceptions on usability and feasibility of TELE-TOC implementation as part of routine COPD discharge care transitions. Qualitative data were analyzed using inductive thematic analysis and an inductive-deductive approach guided by the Agency for Healthcare Research and Quality-endorsed Care Transitions Framework. Quantitative data were summarized using basic descriptive statistics.

Results: Participants included 18 patients, 18 clinicians, 8 organizational leaders, and 2 caregivers. Phase 1 identified 3 interdependent stages of COPD hospital-to-home discharge: inpatient pre-discharge, at-home post-discharge, and outpatient clinic visit post-discharge. Key facilitators of discharge care transitions included the hospital's "meds-to-beds" program and high patient health literacy, while barriers to discharge included poor timing of education and conflicting patient priorities. Phase 2 delineated the core televisit components (eg, dedicated clinician, medication reconciliation, inhaler use, and self-management education) and flexible components (eg, reminder system and session frequency). Potential implementation enablers included multiple techniques for clinicians to access and support patient education and backup communication strategies in the event of technical issues. Potential implementation barriers included insufficient patient

technology access and limited technology and health literacy, as well as limited clinician bandwidth for thorough COPD education and medication reconciliation. Phase 3 TELE-TOC prototype walkthroughs demonstrated a positive patient experience (average system usability scale score of 97.5/100), attributed to the benefits of videoconferencing technology for hands-on teaching and the use of the virtual teach-back method. Identified barriers included varying levels of patient technology literacy, insufficient inhaler education, limited patient understanding of medication lists, and clinician uncertainty around TELE-TOC documentation. Suggestions for mitigating these barriers included patient training for TELE-TOC sessions, amendments to pharmacists' "visit note," and enhanced patient preparation for medication reconciliation.

Conclusions: Using a co-design approach, we integrated multiple perspectives to develop and optimize TELE-TOC, a patient-centered televisit intervention aimed at supporting discharge care transitions to improve continuity of care and outcomes for patients with COPD. Future research will evaluate the impact of TELE-TOC on readmissions from acute exacerbations.

Keywords: chronic obstructive pulmonary disease; education; participatory design; readmission; remote; telehealth; telemedicine; virtual.

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Conflict of interest statement

Conflicts of Interest: VGP reports receiving grant funding from the National Institutes of Health (K24HL163408 and R01HL146644) and the Agency for Healthcare Research and Quality (R01AS027804). VGP also reports receiving consulting fees for her work with Humana. All other authors have no conflicts to report.

- 62 references
- 6 figures

Supplementary info

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PLoS One

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. 2025 Dec 5;20(12):e0335935.

doi: 10.1371/journal.pone.0335935. eCollection 2025.

The impact of hyperglycemia on prognosis in chronic obstructive pulmonary disease patients with coronary heart disease: A five-year prospective study

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Affiliations Expand

- PMID: 41348723
- PMCID: PMC12680245
- DOI: 10.1371/journal.pone.0335935

Abstract

Background: There is a lack of research on the impact of hyperglycemia on the prognosis of patients with both chronic obstructive pulmonary disease (COPD) and coronary heart disease (CHD). This study aims to investigate the effect of hyperglycemia on long-term acute exacerbation frequency and mortality rates in COPD patients with CHD.

Methods: This real-world and prospective study recruited inpatients with COPD from the second Xiangya Hospital of Central South University, in China in December 2016, with follow-up until March 2023. Moreover, we collected data on COPD participants from the National Health and Nutrition Examination Survey (NHANES), spanning the period from 1999 to 2018. All patients included in the study had concurrent CHD and available fasting blood glucose (FBG) measurements at the time of admission. Patients were categorized into normal blood glucose and hyperglycemia groups based on whether their FBG exceeded 7 mmol/L. Self-administered questionnaires, clinical records, and self-reported data were the primary methods for data collection. Kaplan-Meier survival analyses and Cox proportional hazard models were used to assess the risk of acute exacerbation and all-cause mortality for COPD patients with CHD during the follow-up period.

Results: Among patients with both COPD and CHD, patients in the hyperglycemia group had lower smoking index, higher prevalence of diabetes, lower eosinophil percentage (Eos%), notably elevated C-reactive protein (CRP) and brain natriuretic peptide (BNP) levels, reduced albumin (ALB) levels, and higher incidence of fungal positivity than patients in the normal blood glucose group ($p < 0.05$). Age (HR = 1.098, 95% CI = 1.013-1.191, $p = 0.024$), hyperglycemia (HR = 3.622, 95% CI = 1.08-12.15, $p = 0.037$), and comorbidities with obsolete pulmonary tuberculosis (HR = 3.185, 95% CI = 1.03-9.85, $p = 0.044$) were identified as independent predictors of mortality in multivariate analyses over the follow-up years. Hyperglycemia, age, smoking, white blood cell count (WBC), uric acid (UA), creatinine (Cr), ALB, and aspartate aminotransferase (AST) were also identified as independent predictors of

mortality in multivariate analyses during the follow-up years, according to NHANES data. Kaplan-Meier survival curves demonstrated that patients in the hyperglycemia group experienced significantly higher rates of exacerbations and mortality compared to those in the normal blood glucose group over a follow-up period of 5 years or more (log-rank test, $p < 0.05$).

Conclusions: Hyperglycemia serves as an independent risk factor for prolonged acute exacerbations and mortality in COPD patients complicated with CHD post-discharge. Proactive intervention strategies targeting hyperglycemia should be promptly instituted to mitigate the risk of future acute exacerbations and mortality in COPD patients with CHD.

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Conflict of interest statement

The authors have declared that no competing interests exist.

- 32 references
- 2 figures

Supplementary info

MeSH terms, SubstancesExpand

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Respiration

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. 2025 Dec 5:1-20.

doi: 10.1159/000549778. Online ahead of print.

Home non-invasive ventilation in patients with chronic obstructive pulmonary disease: a survey of current practice in Italy

Claudia Crimi, Annalisa Carlucci, Lara Pisani, Scott Gibson, Carlo Bellatorre, Anna Panza, Sarah Alami

- PMID: 41348704

- DOI: 10.1159/000549778

Abstract

Introduction: Optimal initiation and management of long-term home non-invasive ventilation (LTH-NIV) therapy requires a personalised approach that may not be possible within some healthcare systems. This survey of Italian physicians determined current practices regarding LTH-NIV initiation and follow-up in patients with chronic hypercapnic chronic obstructive pulmonary disease (COPD), areas for process improvements, and use of telemonitoring.

Methods: A 35-question survey was developed then sent via e-mail for completion using computer-assisted web interviewing methodology. Respondents were Italian hospital-based physicians identified using a healthcare professional database who had 3 years' experience in pulmonology, treated/followed up at least 50 patients on NIV, and consented to participate.

Results: 60/71 physicians approached completed the online survey. Of these, 41/60 (68%) said that LTH-NIV prescription followed hospitalisation for acute COPD exacerbation. The most important clinical aspects to monitor early after discharge and during long-term follow-up were reported as mask fit and patient quality of life. Physicians reported a high workload for management of patients on LTH-NIV, but felt that many therapy management tasks could be performed by other providers, especially outpatient pulmonologists and homecare providers. Only 32% of respondents were currently using telemonitoring; reasons for non-use were lack of human resources (63%) or regulatory framework (37%), and cost/reimbursement issues (22%).

Conclusion: These data highlight substantial differences between LTH-NIV clinical practice for chronic hypercapnic COPD in Italy and current guidelines, suggesting that guideline-mandated processes may not be achievable or sustainable in real-world settings. Involvement of homecare providers and use of telemonitoring could help improve the management of LTH-NIV therapy.

S. Karger AG, Basel.

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Randomized Controlled Trial

BMJ Open Respir Res

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doi: 10.1136/bmjresp-2025-003406.

Cost-effectiveness of a self-management maintenance programme following pulmonary rehabilitation: a UK randomised controlled trial for patients with chronic obstructive pulmonary disease

Amir J Khan [1 2], Anil Gumber [2 3], Matthew Richardson [4], Claire M Marie Nolan [5], William D-C Man [6 7], Sally Singh [8 9], Linzy Houchen-Wolloff [8], Ala Szczepura [10]

Affiliations Expand

- PMID: 41344919

- DOI: 10.1136/bmjresp-2025-003406

Free article

Abstract

Introduction: Pulmonary rehabilitation (PR) is an effective intervention for patients with chronic obstructive pulmonary disease (COPD) but impact typically only lasts 6-12 months. This paper presents results of an economic evaluation of a PR maintenance programme (Self-management Programme of Activity, Coping and Education (SPACE)) undertaken within a prospective assessor-blind randomised controlled trial.

Methods: Adults with COPD who had completed PR within the previous 4 weeks were randomised to SPACE or best usual care. Healthcare use, personal expenditure and societal costs were recorded at baseline, 6 and 12 months. SPACE costs included staff training, materials and delivery of group sessions. Health utility recorded (EQ-5D-5L) with analysis comparing differences in mean values at 6 and 12 months, over baseline utility scores. Observed changes compared with threshold for COPD clinical significance. Incremental cost-effectiveness ratios estimated from National Health Service and societal perspectives. Cost per quality-adjusted life-year (QALY) values compared with willingness-to-pay threshold (≤£30 000). Uncertainties in costs and outcomes incorporated into a sensitivity analysis. Missing values imputed using a Bayesian mixed model with confounders.

Results: 116 patients recruited between October 2019 and June 2022 (57 intervention and 59 control). No significant differences at baseline in age, body mass index, smoking, forced expiratory volume in 1 s and health utility (EQ-5D-5L). Mean healthcare costs in the SPACE group were £139.72 lower per patient over 12 months compared with usual care. At 12 months, the SPACE group retained higher ($p=0.04$) utility value 0.7609 (SE=0.0238) versus control patients 0.6738 (SE=0.0348). The recorded 0.1178 advantage in mean QALY values ($p<0.05$) is above the

threshold (0.051) for COPD significance. Cost-effectiveness acceptability curves indicate a 97% chance of achieving £20 000 per QALY. Patient and societal costs increase this percentage.

Discussion: This study addresses an important gap in current evidence for non-pharmacological COPD interventions. The PR maintenance programme (SPACE) is shown to be highly cost-effective at 12 months. Future research should consider cost-effectiveness of telerehabilitation programmes, as well as tailored digital support beyond 12 months.

Keywords: COPD Exacerbations; COVID-19; Compliance; Health Economist; Patient Outcome Assessment; Pulmonary Disease, Chronic Obstructive; Pulmonary Rehabilitation; Telemedicine.

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Conflict of interest statement

Competing interests: None declared.

Supplementary info

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8

Review

Sports Med

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Tailored Exercise Prescription for People with COPD and Clinically Relevant Comorbidities: A Consensus Statement of the EXPERT Working Group and Experts in Pulmonary Rehabilitation

Felipe V C Machado [1 2 3], Karin Coninx [4], Daniel Neunhaeuserer [5], Cajsa Tonoli [6], Josef Niebauer [7], Massimo Piepoli [8 9], Roberto Pedretti [10], Evangelia

Kouidi [11], Marco Ambrosetti [12], Paul Dendale [13 14], Birna Bjarnason-Wehrens [15], Paul Beckers [16], Véronique Cornelissen [17 18], Olga Barna [19], Patrick Doherty [20], Bernhard Rauch [21 22], Frank Edelmann [23], Bernhard Schwaab [24], Tim Takken [25], Rona Reibis [26], Constantinos H Davos [27], Esteban Garcia-Porrero [28], Fabio Pitta [29], Nidia A Hernandes [29], Michael K Stickland [30], Elena Gimeno-Santos [31 32 33], Jana De Brandt [34], Andre Nyberg [34], Ana Machado [35 36 37], Alda Marques [36], Chris Burtin [35 13], Rainer Gloeckl [38], Ioannis Vogiatzis [39], Bruno Balbi [40], Dennis Jensen [41 42], William D-C Man [43 44 45], Carolyn L Rochester [46 47], Sally J Singh [48], Frits M E Franssen [49 50], Martijn A Spruit [49 50], Dominique Hansen [35 13 14]

Affiliations Expand

- PMID: 41343041

- DOI: 10.1007/s40279-025-02353-9

Abstract

Chronic obstructive pulmonary disease (COPD) is a heterogeneous chronic lung condition often accompanied by comorbidities and systemic manifestations that affect the person's clinical condition and prognosis and often require specific treatment. Therefore, the management of COPD extends beyond treatment for the lungs per se. Pulmonary rehabilitation (PR) should be considered as part of person-centered management, and supervised exercise training is a core component of this intervention. PR exercise training parameters (e.g., frequency, intensity, time, and type) should be individualized to maximize each individual's functional gains while targeting systemic manifestations and comorbidities. This manuscript presents evidence-based tailored recommendations for optimizing exercise interventions for people with COPD and comorbidities that significantly affect prognosis (e.g., mortality, hospitalizations) including cardiovascular disease (CVD) (e.g., chronic coronary syndrome, heart failure), CVD risk factors (e.g., type 2 diabetes mellitus [T2DM], hypertension), and sarcopenia. To achieve these goals, existing guidelines and evidence for exercise training in COPD, CVD, CVD risk factors, and sarcopenia have been reviewed to identify synergies between PR and cardiac rehabilitation, as well as the treatment of T2DM and sarcopenia. In addition, we provided clinical cases to illustrate how PR can be adapted to accommodate specific comorbidities. These examples offer practical guidance for tailoring exercise prescriptions within PR programs to address the unique needs of people with COPD and clinically relevant comorbidities, thereby enhancing overall treatment effectiveness and optimizing health outcomes.

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Conflict of interest statement

Declarations. Conflict of Interest: The authors declare no financial or nonfinancial conflicts of interest directly or indirectly related to the work submitted for publication. M.A. Spruit obtained research grants from Boehringer Ingelheim, TEVA, Chiesi, GSK, TEVA, Stichting Astma Bestrijding, and Netherlands Lung Foundation, all outside the scope of the current study; and he is founder/owner of Care2Know B.V. Ethical Approval: Not applicable. Consent to Participate: Not applicable. Consent for Publication: Not applicable. Code Availability: Not applicable.

Availability of Data and Material: No datasets were generated or analyzed during the current study. Author Contributions: All authors contributed to the conception or design of the work, the interpretation of data, the drafting of the manuscript, and its critical revision. All authors gave final approval for the version to be submitted and agreed to be accountable for all aspects of the work, ensuring its integrity and accuracy.

- 108 references

Supplementary info

Publication types, Grants and fundingExpand

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

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Ann Epidemiol

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. 2025 Dec 4:S1047-2797(25)00350-3.

doi: 10.1016/j.annepidem.2025.12.002. Online ahead of print.

MULTIPLE CAUSES OF DEATH DATA TO TRACK TRENDS OF MORTALITY FROM CHRONIC DISEASES: INSIGHTS FROM THE COVID-19 PANDEMIC IN SWITZERLAND

D Durán N [1], J S Kaufman [2], A Chiolero [3], C Carmeli [4]

Affiliations Expand

- PMID: 41352490

- DOI: 10.1016/j.annepidem.2025.12.002

Free article

Abstract

Purpose: With the rising prevalence of multi-morbidity among aging populations and disruptive events as new infectious disease threats, the traditional focus on the

underlying cause of death (UCOD) can obscure the contribution of chronic diseases to mortality trends. The multiple cause of death (MCOD) approach addresses this limitation by considering all causes recorded on a death certificate. We aimed to quantify the effect of the COVID-19 pandemic on trends of chronic disease mortality by comparing the UCOD and MCOD approaches.

Methods: We conducted a population-based time series analysis using all deaths occurred 2011-2022 in Switzerland. We modelled pre-pandemic (2011-2019) trends to predict the expected chronic disease deaths during 2020-2022 had the pandemic not occurred. We quantified the monthly effect of the pandemic as the observed minus expected chronic disease deaths and estimated these effects by sex and age using (1) the UCOD and (2) the MCOD.

Results: Both approaches revealed similar overall trends of effects. However, a marked discrepancy occurred at the end of 2020, when Switzerland experienced the highest COVID-19 mortality, with MCOD quantifying a substantially higher excess of chronic disease deaths compared to UCOD.

Conclusion: MCOD complements UCOD in quantifying cause-specific mortality trends and may improve population health monitoring.

Keywords: (3-5): Mortality; COVID-19; Chronic diseases; Death certificates; epidemiology.

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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:Doris Duran reports article publishing charges was provided by Canadian Research Knowledge Network. Doris Duran reports financial support was provided by Quebec Health Research Fund. 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

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Geroscience

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. 2025 Dec 6.

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The frailty mortality link in people with chronic diseases pertaining to 13 body organ systems: findings from the UK Biobank study

Justine Dastouet [1], Aurore Fayosse [1], Louis Jacob [1 2 3], Archana Singh-Manoux [1 4], Séverine Sabia [1 4], Benjamin Landré [5]

Affiliations Expand

- PMID: 41351715

- DOI: 10.1007/s11357-025-01980-4

Abstract

Frailty in older adults, particularly those with chronic diseases, has a robust association with risk of mortality, but whether this is the case in middle-aged adults is unclear. We examined the frailty-mortality association in middle-aged adults with chronic diseases and multimorbidity. Data on Fried's frailty phenotype (robust, prefrail, frail) and 47 chronic diseases, mapped to 13 body organ systems, was available on 230,960 participants of the UK Biobank study (mean age 57.8, range 38.0-72.0). The mortality follow-up was 13.3 (± 2.1) years, and associations with mortality were examined using Cox regression, adjusted for socio-demographic factors and health behaviours. Compared to the robust group, frailty (HR, 2.32 (95% confidence intervals, 2.21; 2.43)) and prefrailty (1.35 (1.31; 1.39)) in those with diseases in any body organ system had a higher risk of mortality. Frailty was associated with a higher mortality risk for all 13 groups (all p < 0.01); estimates ranged from 2.25 (2.12; 2.39) for circulatory system diseases to 2.97 (2.60; 3.39) for the eye system. The same was the case for prefrailty; estimates ranged from 1.33 (1.23; 1.43) to 1.61 (1.03; 2.51). Between 19 and 34% of the mortality risk in the 13 disease groups could potentially be explained by frailty/prefrailty. Frailty (p < 0.01) and prefrailty (p < 0.01) had stronger associations with mortality in those with diseases affecting multiple organ systems. These findings highlight the importance of frailty in middle-aged adults with chronic diseases, suggesting that a third of the excess risk of mortality could potentially be addressed by improving frailty status.

Keywords: Ageing; Chronic disease; Frailty; Mortality; Multimorbidity; UK Biobank.

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Conflict of interest statement

Declarations. Competing interests: The authors declare no competing interests.

- 50 references

Supplementary info

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3

Editorial

J Am Coll Cardiol

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Frailty in Cardiovascular Disease: Time for a Universal Definition!

Abdulla A Damluji [1], Michael G Nanna [2], Venu Menon [3]

Affiliations Expand

- PMID: 41335081

- DOI: 10.1016/j.jacc.2025.10.046

No abstract available

Keywords: aged 80 and over; cognitive function; frailty; geriatric assessment; multimorbidity.

Conflict of interest statement

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Supplementary info

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

1

Review

Curr Allergy Asthma Rep

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. 2025 Dec 9;25(1):58.

doi: 10.1007/s11882-025-01238-1.

Global Research Trends in Chronic Care for Comorbid Allergic Diseases: A Web of Science Bibliometric Review (1999-2024)

Liling Li [1], Dan Chen [1], Min Zhou [2 3], He Zhang [1 2 3], Rui Zheng [1 2 3], Jing Su [2 3], Yun Chen [2 3], Guowei Xiong [2 3], Xin Luo [1 2 3], Guixian Liang [1 2 3], Kun Zhang [2 3 4], Min Dai [2 3 4], Pingping Zhang [2 3 5], Yating Li [2 3 5], Xuekun Huang [1 2 3], Zhaohui Shi [1 2 3], Yana Zhang [1 2 3], Zhaoyu Gan [2 3 6], Jin Tao [2 3 7], Chengfang Xu [2 3 8], Zhuanggui Chen [2 3 5], Peiying Feng [2 3 9], Yuqi Zhou [2 3 10], Peng Li [1], Deyun Wang [11], Qintai Yang [12 13 14], Qilin Zhou [15 16]

Affiliations Expand

- **PMID: 41361064**

- **DOI: 10.1007/s11882-025-01238-1**

Abstract

Purpose of review: This study employs bibliometric methods to analyze global research trends in managing comorbid allergic diseases (e.g., allergic rhinitis, asthma, eczema, food allergies), aiming to identify key contributors, frameworks, and research gaps.

Recent findings: Bibliometric analysis of Web of Science data using CiteSpace, Excel, and R revealed an increasing trend in research output, with the U.S., U.K., and China being the leading contributors. Key chronic disease frameworks like the

Chronic Care Model, Self-Management Program, and Innovative Care Framework were highly cited. Research hotspots included management strategies, prevalence, risk factors, and quality of life, with increasing focus on management approaches over time. The findings highlight the rising importance of interdisciplinary collaboration in managing comorbid allergic diseases. Tailored management strategies are required to address the chronic and complex nature of these conditions. Future research should focus on improving treatment efficacy and enhancing patient quality of life, as significant gaps remain in optimizing long-term care for these conditions.

Keywords: Allergic comorbidities; Bibliometrics; Chronic disease management; Global health; Intervention.

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Conflict of interest statement

Declarations. Ethics Approval: Not applicable, as this study did not involve any human or animal testing. Consent to Participate: Not applicable, as this study did not involve any human or animal testing. Consent for Publication: Not applicable, as this study did not involve any individual person's data Statement on Generative AI: The authors declare that no generative AI tools were used in the creation of this manuscript. Competing Interests: The authors declare no competing interests.

- 85 references

Supplementary info

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2

Review

Lung

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. 2025 Dec 8;203(1):108.

doi: 10.1007/s00408-025-00861-z.

State of the Art Review: Glucagon-Like Peptide-1 in Obesity-Related Asthma

Destiny R Gomez [1], Isaac Swartzman [2], Angela Linderholm [1], Bethany P Cummings [3 4], Amir A Zeki [1 4], Krishna M Sundar [1], Nicholas J Kenyon [5]

Affiliations Expand

- PMID: 41359186

- DOI: 10.1007/s00408-025-00861-z

Abstract

Asthma is a heterogeneous condition characterized by chronic airway inflammation, airway hyperresponsiveness, and mucin hypersecretion. Obesity-related asthma is one phenotype of asthma with significant metabolic dysregulation. A complete understanding of obesity-related asthma remains elusive, but it is most often characterized by the absence of hallmark features of Type-2 (T2) high asthma, such as eosinophilia or elevated exhaled nitric oxide (NO) levels. Patients with obesity-related and T2 low asthma with or without type 2 diabetes mellitus (T2DM) experience worse clinical outcomes, including more severe acute exacerbations. Among the Food and Drug Administration (FDA) approved drug classes for T2DM, there is a growing interest in glucagon-like peptide 1 receptor agonists' (GLP-1RAs) ability to potentially exert effects in the airway. Previous studies found that individuals with T2DM and asthma who were prescribed GLP-1RAs, had decreased asthma exacerbations and improved lung function. However, there remains a gap in understanding GLP-1RAs mechanism of action in the lung and airways to improve pulmonary function. In this review we discuss the potential mechanisms by which GLP-1RAs may impact T2 low asthma and offer a therapeutic option for this highly prevalent disorder.

Keywords: Airway inflammation; Asthma; Glucagon-Like peptide-1; Obesity; Weight loss.

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Conflict of interest statement

Declarations. Competing Interests: The authors declare no competing interests.

- 138 references

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Drugs

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. 2025 Dec 8.

doi: 10.1007/s40265-025-02259-w. Online ahead of print.

Rilzabrutinib: First Approval

Arnold Lee [1]

Affiliations Expand

- PMID: 41359083

- DOI: 10.1007/s40265-025-02259-w

Abstract

Rilzabrutinib (WAYRILZ™) is a small-molecule, reversible, highly specific, covalent BTK inhibitor being developed by Sanofi for the treatment of multiple immune-related and inflammatory disorders, including immune thrombocytopenia, warm autoimmune haemolytic anaemia, sickle cell disease, IgG4-related disease, asthma, chronic spontaneous urticaria, among others. As a BTK inhibitor, rilzabrutinib demonstrates multiple immunomodulatory effects, including reduced B cell activation and autoantibody production, inhibition of macrophage activity, and anti-inflammatory effects. In clinical trials, rilzabrutinib was associated with durable platelet responses in patients with previously treated immune thrombocytopenia. This article summarizes the milestones in the development of rilzabrutinib leading to its first approval for the treatment of adults with persistent or chronic immune thrombocytopenia who have had an insufficient response to previous treatment.

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Conflict of interest statement

Declarations. Authorship and Conflict of interest: During the peer review process the manufacturer of the agent under review was offered an opportunity to comment on the article. Changes resulting from any comments received were made by the authors on the basis of scientific completeness and accuracy. Arnold Lee is a contracted employee of Adis International Ltd/Springer Nature, and declares no relevant conflicts of interest. All authors contributed to this article and are responsible for its content. Ethics approval, Consent to participate, Consent to publish, Availability of data and material, Code availability: Not applicable.

- 17 references

Full text links

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Chest

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. 2025 Dec 5:S0012-3692(25)05814-3.

doi: 10.1016/j.chest.2025.10.047. Online ahead of print.

Impact of mepolizumab on airway remodeling and inflammation in severe eosinophilic asthma

Camille Taillé [1], Fatima Hamidi [2], Nicolas Heddebaut [2], Nicolas Poté [3], Pierre Le Guen [4], Mathilde Le Brun [4], Carine Roy [5], Axelle Dupont [5], Séverine Létuvé [2]

Affiliations Expand

- PMID: 41354402

- DOI: 10.1016/j.chest.2025.10.047

Free article

Abstract

Background: Interleukin-5 (IL-5) is a key mediator of severe eosinophilic asthma (SEA) and may also contribute to airway remodeling.

Research question: Can mepolizumab, an anti IL-5 antibody, modify airway remodelling in adult patients with SEA ?

Study design and methods: 37 patients who were eligible for mepolizumab were prospectively included. Mepolizumab 100 mg was administered subcutaneously every 4 weeks for 12 months. Bronchial biopsies and bronchoalveolar lavage (BAL) were performed at baseline, 6 months (M6), and 12 months (M12). Clinical and functional outcomes, airway remodeling, and inflammatory markers were assessed at each time point.

Results: At M12, mepolizumab improved asthma control and pre-bronchodilator forced vital capacity, and reduced the number of exacerbations, oral corticosteroid courses, and hospitalizations. These clinical and functional improvements were associated with a reduction in reticular basement membrane thickness ($p < 0.0001$),

airway smooth muscle (ASM) mass (p = 0.0066), and PCNA-positive ASM cells (p < 0.0001) in the bronchial mucosa at both M6 and M12. BAL fluid (BALF) showed reduced levels of tenascin-C at M6 and M12, and of fibulin-1 at M12. Blood eosinophil counts decreased significantly (p < 0.0001), and eosinophils were almost completely depleted in BALF (p = 0.023) at M12. Submucosal eosinophilia was reduced to a lesser extent (p = 0.063).

Interpretation: In addition to its anti-inflammatory effects, mepolizumab may also attenuate structural airway changes in SEA, which could contribute to its clinical benefits.

Clinical trial registration: NCT03797404.

Keywords: IL-5; aiway remodeling; biologic; eosinophil; reticular basement membrane.

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Editorial

Expert Opin Drug Deliv

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. 2025 Dec 6.

doi: 10.1080/17425247.2025.2601316. Online ahead of print.

Challenges and emerging strategies for airway drug and gene delivery in chronic obstructive lung diseases

Neeraj Vij [1 2 3]

Affiliations Expand

- PMID: 41351340

- DOI: 10.1080/17425247.2025.2601316

No abstract available

Keywords: Airway; Asthma; COPD; Chronic Obstructive Lung Diseases; Cystic Fibrosis; Drug Delivery; Emphysema; Nanomedicine; Nanoparticles; Therapeutics.

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Review

BMC Pulm Med

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. 2025 Dec 5;25(1):554.

doi: 10.1186/s12890-025-04027-8.

Allergic bronchopulmonary aspergillosis in patients with chronic obstructive pulmonary disease: a case series and literature review

Jiaqi Ren [#1], Ying Luo [#1], Lina Sun [1], Chun Chang [1], Yongchang Sun [2]

Affiliations Expand

- PMID: 41350669

- PMCID: PMC12681173

- DOI: 10.1186/s12890-025-04027-8

Abstract

Background: Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity disorder caused by Aspergillus sensitization, mostly associated with asthma, but occasionally seen in patients with chronic obstructive pulmonary disease (COPD). This study aimed to analyze the clinical features, treatment responses, and long-term follow-up of patients with ABPA-COPD overlap syndrome.

Methods: we identified 6 cases of ABPA with underlying COPD from a cohort of ABPA in our hospital. We described symptoms, imaging findings, serology tests, pulmonary functions and treatment outcomes of these cases.

Results: From January 1st, 2013 to December 31th, 2024, 63 cases of ABPA were diagnosed in our hospital, of them 6 (9.52%) were found to have underlying COPD. The 6 patients were all male, aging from 63 to 89 years, with 5 having a smoking history. The presenting symptoms included persistent cough, sputum and exertional dyspnea. The blood total IgE was markedly elevated (1230-2951 KU/L), and all tested positive for A. fumigatus-specific IgE. Blood eosinophil count was 90-1610 cells/μl. CT revealed bronchiectasis (predominantly lower lobes) and emphysema in all cases. Four patients responded well to oral corticosteroids, while 2 required omalizumab for disease control. After follow-up for 1-4 years, 4 patients remained stable, 1 had recurrent exacerbations, and 1 died due to multi-organ failure.

Conclusions: ABPA should be considered in COPD patients with persistent or recurrent respiratory symptoms, higher blood eosinophils, particularly those with bronchiectasis on chest CT. ABPA represents a treatable trait in COPD patients. While corticosteroids remain the first-line therapy, treatment-resistant cases may benefit from biologic agents.

Keywords: Allergic bronchopulmonary aspergillosis; Chronic obstructive pulmonary disease.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Clinical Research Ethics Committees of Peking University Third Hospital ((M2023784), and as it was a retrospective study, exemption from informed consent was applied. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- **30 references**
- **1 figure**

Supplementary info

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NPJ Prim Care Respir Med

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. 2025 Dec 5.

doi: 10.1038/s41533-025-00469-z. Online ahead of print.

Air pollution exposure modes, smoking and genetic risk with chronic respiratory diseases: a prospective study

Ting Wang [#1,2], Linfang Lyu [#3], Ru Yuan [4], Lei Lei [1], Fanging Meng [1], Meng Zhu [5,6], Weiwei Duan [7]

Affiliations Expand

- PMID: 41350531

- DOI: 10.1038/s41533-025-00469-z

Free article

Abstract

Previous studies often focused on single pollutant source, failing to replicate real-world exposure scenarios for chronic respiratory disease (CRD) risk. We aimed to explore the mixed exposure patterns of CRD risk factors and investigate interactions with smoking and genetic risk. We identified air pollution exposure modes using latent class analysis (LCA) in the UK Biobank. Cox model assessed associations between exposure modes and lung cancer (LC), idiopathic pulmonary fibrosis (IPF), chronic obstructive pulmonary disease (COPD) and asthma. Interactions among exposure modes, smoking and genetic risk were analyzed. LCA divided participants into five groups, and hazard ratios (HRs) for "High air pollution" group were 1.28 for LC (95% CI: 1.08-1.52), 1.23 for IPF (95% CI: 1.03-1.48), 1.28 for COPD (95% CI: 1.17-1.39) and 1.09 for asthma (95% CI: 1.01-1.18). Significant additive interactions between high air pollution and smoking were observed for LC and COPD. Individuals with high genetic risk exposed to both smoking and high air pollution showed the relative excess risk due to interaction (RERI) of 2.74 for LC, 3.93 for IPF, and 1.68 for COPD. Smoking and air pollution together accounted for over 40% of LC, IPF and COPD cases. Our findings highlight the complex interplay between environmental air pollution, smoking, and genetic risk in CRD development in real-world exposure scenarios.

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Conflict of interest statement

Competing interests: The authors declare no competing interests.

- **47 references**

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J Allergy Clin Immunol Pract

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. 2025 Dec 3:S2213-2198(25)01137-7.

doi: 10.1016/j.jaip.2025.11.032. Online ahead of print.

HIGH-INTENSITY INTERVAL TRAINING IN ADULTS WITH ASTHMA: SYSTEMATIC REVIEW AND META-ANALYSIS

Paula Regalado-Cabello [1], Laura Pérez-Gisbert [2], Beatriz Brea-Gómez [3], Rocío Pazo-Palacios [4], Marie Carmen Valenza [5], Irene Torres-Sánchez [6]

Affiliations Expand

- **PMID: 41349798**

- **DOI: 10.1016/j.jaip.2025.11.032**

Abstract

Background: Asthma is a chronic respiratory disease that affects about 300 million people worldwide. Recently, high-intensity interval training (HIIT) has been explored as a therapeutic option in asthma.

Objective: To analyze and update the effectiveness of HIIT in adults with asthma.

Methods: This systematic review followed PRISMA guidelines. The search was conducted in 5 databases from their inception to November 2024. We included randomized clinical trials adults with asthma who underwent a HIIT intervention, compared to a control group (CG)/other types of exercise. Methodological quality, certainty of evidence and risk of bias were assessed.

Results: Four studies were included in the review and three were included in the meta-analysis. Meta-analysis results showed significant differences in favor of HIIT in asthma control, asthma-related quality of life and aerobic capacity in the short term compared to CG. HIIT showed significant differences at long-term follow-up in asthma control and asthma quality of life compared to CG. The meta-analysis did not show significant differences between groups regarding lung function or airway inflammation in the short or the long term.

Conclusion: HIIT improved asthma control, asthma-related quality of life and aerobic capacity in adults with asthma compared to CG. These improvements were also found after a one-year follow-up for asthma control and asthma-related quality of life.

Keywords: aerobic capacity; asthma; asthma control; exercise; high-intensity interval training; lung function; quality of life.

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Allergy Asthma Clin Immunol

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. 2025 Dec 4.

doi: 10.1186/s13223-025-00989-w. Online ahead of print.

Oral corticosteroid overexposure: characterizing oral corticosteroid use in patients with chronic rhinosinusitis with nasal polypS in Canada (ACTIONS) results

Yvonne Chan [1], Marie-Noëlle Corriveau [2], Jeffrey Beach [3], Jenna Reynolds [3], Koyo Usuba [4], Danya Thayaparan [5], Ali Tehrani [6], Juejing Ling [# 6], Huijuan Yang [6], Andrew Thamboo [7]

Affiliations Expand

- **PMID: 41345729**

- **DOI: 10.1186/s13223-025-00989-w**

Free article

Abstract

Background: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a type 2 inflammatory condition, often treated with oral corticosteroids (OCS). OCS overexposure can increase the risk of adverse effects, highlighting the need for better treatment strategies including timely biologic therapy use. This study explored OCS use patterns in patients with severe CRSwNP in Canada pre-biologic initiation.

Methods: This retrospective, real-world study used IQVIA's Private Drug Plan (PDP) claims database to examine OCS use patterns 0-24 months pre-initiation of biologic therapy in patients with inferred CRSwNP in Canada (n = 747). Outcomes included OCS use patterns (proportions, claims per patient and by prescribing physician specialty, overexposure [≥ 1000 mg annually, prednisone-equivalent]), demographics, and stratified by comorbid asthma.

Results: Of 747 patients indexed from the PDP, 81.0% had ≥ 1 OCS claim(s), with a median (interquartile range [IQR]) of 3.0 (4.0) claims per patient. Median (IQR) total OCS dose over 24 months was 1020 (1420) mg; 41.5% of patients experienced OCS overexposure. OCS was primarily prescribed by general practitioners (35.9%) and otolaryngologists (32.8%). Patients had a median (IQR) age of 51 (18) years at index, 52.1% were male, and most were from Ontario (48.7%). OCS use was highest in patients with comorbid severe asthma.

Conclusions: This study highlights OCS overexposure in patients with CRSwNP pre-biologic initiation. Enhancing physician and patient awareness of appropriate OCS use and timely biologic initiation could reduce the risk of OCS-related adverse effects and improve CRSwNP management, benefiting long-term patient outcomes through shared decision-making. Trial registration GSK study number 221872.

Keywords: Asthma; Chronic disease; Chronic rhinosinusitis; Corticosteroid use; Medical therapy of chronic rhinosinusitis.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study is based on the analysis of de-identified patients in the IQVIA claims databases, and confidentiality of patient records was maintained at all times. Study results were in tabular form and aggregate analyses that omit subject identification. Any publications and reports will not include subject identifiers. A waiver of informed consent was not required for this study. Consent for publication: Not applicable. Competing interests: Y.C. reports relationships with GSK, Medtronic, and Sanofi for advisory boards and speaker's bureaus, and Stryker for speaker's bureaus. M–N.C. reports relationships with Covis, GSK, Novartis, and Sanofi on advisory boards and speaker's bureaus. J.B. and J.R. are employed by Asthma Canada which has received funding from AstraZeneca, GSK, Novartis, Pfizer, and Sanofi, and consulting fees from Roche. K.U. and D.T. are employed by, and hold financial equities in, GSK. A.Te., J.L., and H.Y. are employed by IQVIA, which received funding from GSK for this study. A.Th. reports relationships with AstraZeneca, GSK, and Sanofi on advisory boards and speaker's bureaus in addition to consulting for Storz and Stryker.

- 38 references

Supplementary info

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BMJ Open Respir Res

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. 2025 Dec 4;12(1):e003394.

doi: 10.1136/bmjresp-2025-003394.

Treatable moments for smoking cessation in asthma and COPD: a nationwide cohort study

Delphine Vauterin [1], Adam Edward Lang [2], Kristiaan Proesmans [1], Maxim Grymonprez [1 3], Lies Lahousse [4 5]

Affiliations Expand

- **PMID: 41344918**

- **DOI: 10.1136/bmjresp-2025-003394**

Free article

Abstract

Background: Smoking cessation has proven to be the most effective non-pharmacological intervention to tackle poor outcomes in airway diseases. However, there is limited understanding of teachable/treatable moments (specific times when individuals may be particularly open to behavioural change) to support smoking cessation in patients with asthma or chronic obstructive pulmonary disease (COPD). Therefore, we aimed to investigate which health events could create treatable moments for nicotine dependence in these patients.

Methods: Patients aged ≥18 years, chronically using medication for obstructive lung diseases between 2017 and 2022 and currently smoking tobacco were identified in Belgian nationwide administrative health data. The impact of potential triggering

events on evidence-based cessation attempts (reimbursed tobacco counselling or cessation medication) was investigated by multivariable Cox proportional hazard models. Additional analyses stratified by care setting where cessation was attempted (inpatient vs outpatient), restricted to a first attempt, incident triggering events only and stratified by hospital label (no label, asthma or COPD separately) were conducted.

Results: Among 94 788 chronic users of pulmonary medication (mean age 61.6 years, 49% female), 12 499 (13.2%) patients attempted smoking cessation. Severe exacerbations (adjusted HR (aHR) 1.82, 95% CI 1.73 to 1.90), use of antidepressants (aHR 1.70, 95% CI 1.64 to 1.76), smoking-related cancer (aHR 1.42, 95% CI 1.33 to 1.52), peripheral vascular disease (aHR 1.42, 95% CI 1.35 to 1.49), admission to critical care (aHR 1.42, 95% CI 1.35 to 1.49), spirometry testing (aHR 1.33, 95% CI 1.27 to 1.38), acute myocardial infarction (aHR 1.32, 95% CI 1.21 to 1.44) and stroke (aHR 1.28, 95% CI 1.18 to 1.38) were associated with a significantly increased likelihood of smoking cessation attempt by more than 25%. All additional analyses confirmed the main findings.

Conclusions: In this nationwide cohort study, we have identified significant treatable moments for smoking cessation beyond established triggering events (eg, stroke and acute myocardial infarction). Exacerbations and spirometry testing were associated with a significantly increased chance of a smoking cessation attempt.

Keywords: Asthma; Asthma Epidemiology; COPD Exacerbations; COPD epidemiology; Pulmonary Disease, Chronic Obstructive; Tobacco and the lung.

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Conflict of interest statement

Competing interests: Outside this manuscript, LL has been consulted as an expert for AstraZeneca, GlaxoSmithKline and Sanofi and has given lectures sponsored by Chiesia and IPSA vzw (non-profit organisations facilitating lifelong learning for healthcare providers), all paid to her institution. She received support for travel from Menarini. None of which are related to the content of this work. Outside this manuscript, DV received support for travel from FWO (Research Foundation Flanders) and is an unpaid member of the European Respiratory Society and Belgian Respiratory Society. None of which are related to the content of this work. AEL previously owned stock in Target, Walmart and Johnson & Johnson. None of which are related to the content of this work. All 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

MeSH termsExpand

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Cite

11

Review

Expert Rev Respir Med

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. 2025 Dec 4.

doi: 10.1080/17476348.2025.2600698. Online ahead of print.

What is the role of the IgE-mediated allergy in severe asthma?

Daniela Muti [1], Plamena Novakova [2], Silviya Novakova [3], Denislava Nedeva [4], Herberto Chong Neto [5], Angelica Tiotiu [6 7]

Affiliations Expand

- PMID: 41342580

- DOI: 10.1080/17476348.2025.2600698

Abstract

Introduction: Severe asthma (SA) is a heterogenous disease with multiple clinical phenotypes. 'Early atopic asthma' is the predominant phenotype in children with SA. This phenotype is also identified in adults with SA. However, the role of immunoglobulin E (IgE)-mediated allergy in SA is still under debate.

Areas covered: This review summarizes current evidence linking IgE-mediated sensitization to SA. Electronic search was realized in Medline and PubMed databases by using the following terms: 'severe asthma,' 'IgE-mediated' associated with 'environmental allergens,' 'aeroallergens,' 'house dust mites,' 'pollens,' 'pets,' 'moulds,' 'cockroach,' 'food allergy,' 'drug allergy,' 'venom allergy,' 'atopic dermatitis,' 'eczema,' 'anaphylaxis.' Exposure to most aeroallergens of SA patients with atopy is associated with an increased risk of severe exacerbations. Children with food allergy have more severe asthma, poor symptoms control, and a high hospitalization rate. More limited evidence exists for the other IgE-mediated conditions and SA.

Expert opinion: IgE-mediated pathways play central role in the pathogenesis of various allergic diseases, including asthma. However, the allergic burden seems to be more important in children with SA than in adults. Future research may provide a better understanding of the role of IgE-mediated allergy in SA and coexisting allergic diseases with improvement in their clinical outcomes.

Keywords: Aeroallergens; anaphylaxis; drugs-allergies; food-allergies; severe asthma; venoms-allergies.

Supplementary info

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Thorax

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. 2025 Dec 3:thorax-2025-223961.

doi: 10.1136/thorax-2025-223961. Online ahead of print.

Blood eosinophil-guided systemic corticosteroid duration in adults hospitalised for asthma exacerbation: a randomised, controlled, open-label, non-inferiority trial

Anthony Yii [1], Tunn Ren Tay [2], Ken Cheah Hooi Lee [3], Si Yuan Chew [3], Nicole Yu-Fang Sieow [2], Xue Ning Choo [2], Ming Ren Toh [2], Sean Chee Hong Loh [2], Pei Yee Tiew [3 4], Jansen Meng Kwang Koh [2], Augustine K H Tee [2], Mariko Siyue Koh [3 5]

Affiliations Expand

- **PMID: 41339088**

- **DOI: 10.1136/thorax-2025-223961**

Free article

Abstract

Objective: Systemic corticosteroids for 5-7 days are standard care for asthma exacerbations, but the optimal duration and potential for precision prescribing remain unclear. Biomarker-guided approaches could reduce corticosteroid exposure without compromising outcomes. We aimed to evaluate whether the blood eosinophil count can be used to safely reduce systemic corticosteroid exposure in hospitalised asthma exacerbations.

Methods: In this open-label, two-centre randomised trial, adults hospitalised for asthma exacerbation were assigned 1:1 to usual care (5 days prednisolone) or

eosinophil-guided care using blood eosinophil counts obtained prior to corticosteroid administration (3 days if eosinophils <300 cells/μL; 5 days if ≥300 cells/μL). The primary outcome was non-inferiority of treatment failure rates (composite of extension of steroid duration, mechanical ventilation or death), with a prespecified 20% non-inferiority margin.

Results: Among 110 randomised patients (55 per group), 60% were eosinophilic, and 40% non-eosinophilic. Treatment failure occurred in 6/55 (10.9%) of eosinophil-guided versus 4/55 (7.3%) of usual care patients, with a 3.6% absolute difference (95% CI -8.9% to 16.2%), meeting non-inferiority. Cumulative corticosteroid dose per patient was similar between groups but significantly lower for non-eosinophilic than eosinophilic exacerbations in the eosinophil-guided group (136 vs 214 mg; p=0.0004), a difference not observed in usual care (186 vs 211 mg; p=0.18). Length of stay, Asthma Control Questionnaire-5 change, additional steroid bursts at 14 days or time to next exacerbation up to 1 year showed no significant differences.

Conclusion: Eosinophil-guided therapy safely reduced systemic corticosteroid exposure in non-eosinophilic exacerbations while maintaining non-inferior outcomes in this proof-of-concept trial.

Trial registration number: NCT05417906.

Keywords: Asthma; Glucocorticoids.

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Conflict of interest statement

Competing interests: None declared.

Supplementary info

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Expert Rev Respir Med

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. 2025 Dec 5:1-7.

doi: 10.1080/17476348.2025.2600110. Online ahead of print.

The current evidence regarding the efficacy of tezepelumab administered for asthma on T2-related comorbidities

Angelica Tiotiu [1 2]

Affiliations Expand

- PMID: 41334919

- DOI: 10.1080/17476348.2025.2600110

Abstract

Introduction: T2-comorbidities are the most common in severe asthma (SA) patients and have a negative impact on disease outcomes but also an important socio-economic burden. Treating SA and its comorbidities by one medication is a very exciting possibility for the clinicians. Several biologics used for SA showed benefits on T2-comorbidities, but currently more limited data exists for tezepelumab, most recently developed in this domain.

Areas covered: This paper summarizes the available evidence regarding the efficacy of tezepelumab on T2-comorbidities of SA. Electronic search queries were applied to PubMed and Medline databases by using the following terms: 'tezepelumab,' 'severe asthma,' 'allergic rhinitis' (AR), 'chronic rhinosinusitis,' 'nasal polyps' (CRSwNP), 'aspirin exacerbated disease (AERD),' 'atopic dermatitis' (AD), 'eczema,' 'chronique spontaneous urticaria' (CSU),'food allergy' (FA), 'eosinophilic esophagitis' (EE).

Expert opinion: Tezepelumab treatment showed undeniable benefits on CRSwNP and AERD by improving sino-nasal and asthma outcomes. If the efficacy of tezepelumab on severe allergic asthma is well documented, current data are insufficient to conclude on its impact on AR. The effects of tezepelumab on AD and CSU were disappointing. No consistent data exists regarding FA and EE. Future studies are needed to confirm the efficacy of tezepelumab on AR, FA, and EE.

Keywords: Efficacy; T2 comorbiditites; safety; severe asthma; tezepelumab.

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BMC Immunol

. 2025 Dec 3.

doi: 10.1186/s12865-025-00777-6. Online ahead of print.

Efficacy and safety of Depemokimab in asthma with eosinophilic phenotype: a systematic review and meta-analysis of randomized controlled trials

Basir Afzaal Gill [# 1], Anum Ijaz [# 2], Noor Fatima [3], Arsalan Ahmed [4], Ayesha Noor [5], Samia Sharif [6], Ishrat Fatima [2], Amna Saeeda [7], Hansa Devi [8], Muhammad Nabeel Saddique [9 10 11]

Affiliations Expand

- PMID: 41331792

- DOI: 10.1186/s12865-025-00777-6

Free article

Abstract

Introduction: Asthma is a complex and heterogeneous disease that significantly impacts quality of life. Eosinophilic asthma, characterized by elevated eosinophil levels, leads to inflammation and hypersensitivity. Many patients remain inadequately managed, resulting in frequent exacerbations and hospitalizations despite standard treatment options. Depemokimab, a long-acting monoclonal antibody that targets IL-5, could offer a novel approach for managing severe eosinophilic asthma.

Methods: A systematic search was conducted across the PubMed, Cochrane Library, Embase, ClinicalTrials.gov, and Scopus databases up to January 2025. Dichotomous outcomes were pooled as risk ratios (RR), and continuous outcomes were represented as mean differences (MD) from baselines, with 95% confidence intervals (CIs), using a random-effects model. Statistical analysis was performed using RevMan (version 5.4).

Results: Two randomized controlled trials (n = 762) were included. Depemokimab significantly reduced the annualized rate of exacerbations (MD -0.59, 95% CI [-0.76 to -0.42], P < 0.00001) and improved the St. George's Respiratory Questionnaire (SGRQ) score (MD -2.93, 95% CI [-5.48 to -0.38], P = 0.02). It also significantly decreased the annualized rate of exacerbations requiring hospitalization or emergency department visits (RR 0.33, 95% CI [0.15 to 0.75], P = 0.008). No significant differences were observed in changes to the Asthma Control Questionnaire (ACQ-5) score, pre-bronchodilator FEV1, or asthma-related diaries. Safety outcomes indicated significantly lower risks for pneumonia, nasopharyngitis, rhinitis, and back pain in the Depemokimab group. However, an increased risk of allergic rhinitis was noted (RR 2.71, 95% CI [1.22 to 6.02], P = 0.01). No significant differences were observed in serious adverse events or other adverse events.

Conclusion: Depemokimab demonstrates promising efficacy in reducing clinically significant exacerbations and improving quality of life measures in patients with severe eosinophilic asthma, with a generally favorable safety profile. However, the current evidence is limited to two trials with relatively short follow-up periods.

Further research with larger, more diverse patient populations and extended long-term follow-up is needed to establish the drug's definitive place in therapeutic algorithms and to comprehensively evaluate potential long-term safety concerns before widespread clinical implementation can be recommended.

Keywords: Asthma; Depemokimab; Meta-Analysis; Monoclonal antibody.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: Ethics approval and consent to participate is not applicable as this study involves publicly available data. Consent for publication: Consent for publication is not applicable as this study involves publicly available data. Competing interests: The authors declare no competing interests.

- **21 references**

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

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Review

Curr Allergy Asthma Rep

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. 2025 Dec 9;25(1):58.

doi: 10.1007/s11882-025-01238-1.

Global Research Trends in Chronic Care for Comorbid Allergic Diseases: A Web of Science Bibliometric Review (1999-2024)

Liling Li [1], Dan Chen [1], Min Zhou [2 3], He Zhang [1 2 3], Rui Zheng [1 2 3], Jing Su [2 3], Yun Chen [2 3], Guowei Xiong [2 3], Xin Luo [1 2 3], Guixian Liang [1 2 3], Kun Zhang [2 3 4], Min Dai [2 3 4], Pingping Zhang [2 3 5], Yating Li [2 3 5], Xuekun Huang [1 2 3], Zhaohui Shi [1 2 3], Yana Zhang [1 2 3], Zhaoyu Gan [2 3 6], Jin Tao [2 3 7], Chengfang Xu [2 3 8], Zhuanggui Chen [2 3 5], Peiying Feng [2 3 9], Yuqi Zhou [2 3 10], Peng Li [1], Deyun Wang [11], Qintai Yang [12 13 14], Qilin Zhou [15 16]

Affiliations Expand

- PMID: 41361064

- DOI: 10.1007/s11882-025-01238-1

Abstract

Purpose of review: This study employs bibliometric methods to analyze global research trends in managing comorbid allergic diseases (e.g., allergic rhinitis, asthma, eczema, food allergies), aiming to identify key contributors, frameworks, and research gaps.

Recent findings: Bibliometric analysis of Web of Science data using CiteSpace, Excel, and R revealed an increasing trend in research output, with the U.S., U.K., and China being the leading contributors. Key chronic disease frameworks like the Chronic Care Model, Self-Management Program, and Innovative Care Framework were highly cited. Research hotspots included management strategies, prevalence, risk factors, and quality of life, with increasing focus on management approaches over time. The findings highlight the rising importance of interdisciplinary collaboration in managing comorbid allergic diseases. Tailored management strategies are required to address the chronic and complex nature of these conditions. Future research should focus on improving treatment efficacy and enhancing patient quality of life, as significant gaps remain in optimizing long-term care for these conditions.

Keywords: Allergic comorbidities; Bibliometrics; Chronic disease management; Global health; Intervention.

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Conflict of interest statement

Declarations. Ethics Approval: Not applicable, as this study did not involve any human or animal testing. Consent to Participate: Not applicable, as this study did not involve any human or animal testing. Consent for Publication: Not applicable, as this study did not involve any individual person's data Statement on Generative AI: The authors declare that no generative AI tools were used in the creation of this manuscript. Competing Interests: The authors declare no competing interests.

- 85 references

Supplementary info

Publication types, MeSH termsExpand

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Ann Allergy Asthma Immunol

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. 2025 Dec 3:S1081-1206(25)01369-9.

doi: 10.1016/j.anai.2025.12.001. Online ahead of print.

The Age of Eczema Onset and Multiple Food Allergies

Hikma Hussien [1], Donyea L Moore [2], Sarah Nimri [3], Lucy A Bilaver [4], Christopher M Warren [4], Mark Wlodarski [4], Jialing Jiang [4], Amal H Assa'ad [5], Hemant P Sharma [6], James N Moy [7], Pamela Newmark [4], Susan Fox [7], Ruchi S Gupta [8], Mahboobeh Mahdavinia [2]

Affiliations Expand

- PMID: 41349694

- DOI: 10.1016/j.anai.2025.12.001

Abstract

Background: Atopic dermatitis (AD) is the most common pediatric atopic disease and a risk factor for food allergy (FA) development. Children with AD are prone to developing allergic comorbidities. its relationship with FA phenotype and timing of onset remains unclear.

Objective: To examine associations between AD presence and onset timing with FA-related outcomes and atopic comorbidities.

Methods: FORWARD is a longitudinal, multi-center study enrolling children aged <12 years with physician-diagnosed FA between (2017-2024). Written informed consent was obtained. Data collected from baseline survey and electronic medical records (EMR). Logistic regression models adjusted for demographic and socioeconomic factors assessed associations between AD with FA number, type of allergens and atopic comorbidities.

Results: Among 1,309 children with physician-diagnosed food allergy (FA), 77% reported history of AD. with 30.3% between 1-3 months,50.2%, 4-12 months and 19.5% after 12 months. Multiple FAs, asthma, and allergic rhinitis were each associated with higher odds of AD. late-onset AD was associated to lower odds of multiple food allergies compared with early-onset AD (OR 0.57, 95% CI 0.38-0.85), including lower odds of milk and egg allergy. Conversely, late-onset AD was associated with higher odds of asthma and allergic rhinitis.

Conclusion: Among children with food allergies 77% report a history of AD, with over 80% of children with FA developed AD within the first year of life. Children with

multiple FAs and those allergic to milk and egg are more likely to develop AD on earlier age onset while asthma and allergic rhinitis were associated with late-onset AD.

Keywords: Atopic Dermatitis; allergic rhinitisAbbreviations; asthma; atopic dermatitis; clinical risk factors; eczema; food allergy; immunology.

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Conflict of interest statement

Declaration of competing interest None.

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JAMA

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. 2025 Dec 3.

doi: 10.1001/jama.2025.19748. Online ahead of print.

Climate Change, Allergic Rhinitis, and Sinusitis

Duncan A Meiklejohn [1], Neelima Tummala [2], M Lauren Lalakea [3]

Affiliations Expand

- PMID: 41335404

- DOI: 10.1001/jama.2025.19748

No abstract available

Plain language summary

This JAMA Insights explores how climate change could lead to increased incidence of allergic rhinitis and chronic rhinosinusitis due to such factors as air pollution and pollen levels.

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Expert Rev Respir Med

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. 2025 Dec 5:1-7.

doi: 10.1080/17476348.2025.2600110. Online ahead of print.

The current evidence regarding the efficacy of tezepelumab administered for asthma on T2-related comorbidities

Angelica Tiotiu [1 2]

Affiliations Expand

- PMID: 41334919

- DOI: 10.1080/17476348.2025.2600110

Abstract

Introduction: T2-comorbidities are the most common in severe asthma (SA) patients and have a negative impact on disease outcomes but also an important socio-economic burden. Treating SA and its comorbidities by one medication is a very exciting possibility for the clinicians. Several biologics used for SA showed benefits on T2-comorbidities, but currently more limited data exists for tezepelumab, most recently developed in this domain.

Areas covered: This paper summarizes the available evidence regarding the efficacy of tezepelumab on T2-comorbidities of SA. Electronic search queries were applied to PubMed and Medline databases by using the following terms: 'tezepelumab,' 'severe asthma,' 'allergic rhinitis' (AR), 'chronic rhinosinusitis,' 'nasal polyps' (CRSwNP), 'aspirin exacerbated disease (AERD),' 'atopic dermatitis' (AD), 'eczema,' 'chronique spontaneous urticaria' (CSU),'food allergy' (FA), 'eosinophilic esophagitis' (EE).

Expert opinion: Tezepelumab treatment showed undeniable benefits on CRSwNP and AERD by improving sino-nasal and asthma outcomes. If the efficacy of tezepelumab on severe allergic asthma is well documented, current data are insufficient to conclude on its impact on AR. The effects of tezepelumab on AD and CSU were disappointing. No consistent data exists regarding FA and EE. Future studies are needed to confirm the efficacy of tezepelumab on AR, FA, and EE.

Keywords: Efficacy; T2 comorbiditites; safety; severe asthma; tezepelumab.

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BMC Immunol

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. 2025 Dec 3.

doi: 10.1186/s12865-025-00777-6. Online ahead of print.

Efficacy and safety of Depemokimab in asthma with eosinophilic phenotype: a systematic review and meta-analysis of randomized controlled trials

Basir Afzaal Gill [# 1], Anum Ijaz [# 2], Noor Fatima [3], Arsalan Ahmed [4], Ayesha Noor [5], Samia Sharif [6], Ishrat Fatima [2], Amna Saeeda [7], Hansa Devi [8], Muhammad Nabeel Saddique [9 10 11]

Affiliations Expand

- **PMID: 41331792**

- **DOI: 10.1186/s12865-025-00777-6**

Free article

Abstract

Introduction: Asthma is a complex and heterogeneous disease that significantly impacts quality of life. Eosinophilic asthma, characterized by elevated eosinophil levels, leads to inflammation and hypersensitivity. Many patients remain inadequately managed, resulting in frequent exacerbations and hospitalizations despite standard treatment options. Depemokimab, a long-acting monoclonal antibody that targets IL-5, could offer a novel approach for managing severe eosinophilic asthma.

Methods: A systematic search was conducted across the PubMed, Cochrane Library, Embase, ClinicalTrials.gov, and Scopus databases up to January 2025. Dichotomous outcomes were pooled as risk ratios (RR), and continuous outcomes were represented as mean differences (MD) from baselines, with 95% confidence

intervals (CIs), using a random-effects model. Statistical analysis was performed using RevMan (version 5.4).

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Keywords: Asthma; Depemokimab; Meta-Analysis; Monoclonal antibody.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: Ethics approval and consent to participate is not applicable as this study involves publicly available data. Consent for publication: Consent for publication is not applicable as this study involves publicly available data. Competing interests: The authors declare no competing interests.

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chronic cough

. 2025 Dec 8.

doi: 10.1038/s41598-025-30832-6. Online ahead of print.

Real-world survey on utilization of central antitussives and its health impact in patients with subacute and chronic cough in Japan

Junpei Saito [1], Shotaro Maeda [2]

Affiliations Expand

- PMID: 41360930

- DOI: 10.1038/s41598-025-30832-6

Abstract

Despite guideline recommendations against the long-term use of central antitussives, actual clinical practice remains unclear. We aimed to investigate prescription patterns of central antitussives in patients with cough using Japanese claims data. In this retrospective cohort study, we evaluated patients aged ≥ 20 years with subacute and chronic cough from IQVIA Claims database. The primary outcome was the number of days central antitussives were prescribed. Additionally, we examined co-occurrence patterns of comorbidities and adverse events, specifically nausea and constipation, in relation to the duration of central antitussive prescription. Among 10,385 patients with subacute/chronic cough, 4431 (42.7%) were prescribed central antitussives. A longer duration of central antitussives prescription was significantly associated with a higher frequency of comorbidities. Specifically, the proportion of bronchial asthma/cough variant asthma, allergic rhinitis/chronic rhinosinusitis, and gastroesophageal reflux disease increased with the number of prescribed days of central antitussive. Adjusted odds ratio (95%CI) for constipation and nausea were 1.80 (1.18-2.76) and 2.06 (1.15-3.70), respectively, in patients prescribed central antitussives for > 57 days compared to those prescribed for 0-28 days. Appropriate treatment of comorbidities and prescription of central antitussives are warranted.

Keywords: Adverse event; Central antitussives; Chronic cough; Comorbidity; Real world data; Subacute cough.

© 2025. The Author(s).

Conflict of interest statement

Declarations. Competing interests: JS received research funding, advisory fees, and lecture fees, honoraria from Kyorin and principal investigator role with GSK. SM is a full-time employee at Kyorin Pharmaceuticals. Other authors have no competing interest. Ethical approval: This study was conducted in accordance with the Ethical Guidelines for Medical and Health Research Involving Human Subjects”36.

Furthermore, because this study used only anonymized claims data, ethical approval and informed consent were waived by the Fukushima Medical University Ethics Committee.

- 36 references

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Lung

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. 2025 Dec 5;203(1):106.

doi: 10.1007/s00408-025-00860-0.

Prevalence of Laryngeal Abnormal Sensation in a Hospital Worker Population and its Association with Cough Hypersensitivity

Yuki Amakusa [1 2], Yoshihiro Kanemitsu [3], Ippei Sakakibara [2], Ziwen Ma [1], Tatsuro Suzuki [1], Keima Ito [1], Yuta Mori [1], Kensuke Fukumitsu [1], Satoshi Fukuda [1], Takehiro Uemura [1], Tomoko Tajiri [1], Hirotsugu Ohkubo [1], Akio Niimi [1 4], Tetsuya Oguri [1 2]

Affiliations Expand

- PMID: 41348217

- DOI: 10.1007/s00408-025-00860-0

Abstract

Purpose: Cough hypersensitivity is characterized by exaggerated cough responses to mild stimuli, which is frequently associated with laryngeal abnormal sensation (LAS). However, the clinical characteristics of LAS and its prevalence in a non-clinical working population remain unclear. This study aimed to investigate the clinical characteristics and prevalence of LAS.

Methods: This cross-sectional study included 556 healthcare workers (aged 20-72) from Gamagori City Hospital, Japan. Participants completed the Newcastle Laryngeal Hypersensitivity Questionnaire (NLHQ), Hull Airway Reflux Questionnaire, and Leicester Cough Questionnaire (LCQ). LAS was defined as an NLHQ score < 17.1. Binary logistic regression was used to analyze LAS-associated factors.

Results: LAS was present in 9.5% of participants. The LAS-positive group had significantly higher prevalence of asthma (13.2% vs. 3.4%, P = 0.005), chronic rhinosinusitis (7.5% vs. 1.0%, P = 0.006), and gastroesophageal reflux disease (GERD; 11.3% vs. 1.2%, P < 0.001). Cough prevalence was significantly higher in the LAS(+) group (45.2% vs. 9.5%, P < 0.001), and quality of life was impaired, as indicated by lower LCQ scores. Multivariate analysis revealed that asthma (OR = 5.092, P = 0.002), GERD (OR = 12.397, P < 0.001), and mood swings (OR = 2.957, P = 0.003) were independent risk factors for LAS.

Conclusion: LAS markedly affects symptoms like cough and impairs quality of life, and is independently associated with asthma, GERD, and mood swings. It may reflect a sensory phenomenon of vagal hypersensitivity that could contribute to the pathophysiology of such chronic conditions.

Keywords: Asthma; Cough hypersensitivity; Gastroesophageal reflux disease; Laryngeal abnormal sensation; Newcastle laryngeal hypersensitivity questionnaire.

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Conflict of interest statement

Declarations. Conflict of interest: The authors declare no conflicts of interest that could be considered to influence the content of this manuscript. The following financial relationships are disclosed, though they are not directly related to this work: YK has received research grants from MSD life foundation and personal fees from GSK, Novartis Pharma, AstraZeneca, Sanofi, and Kyorin. KF has received research grants from Novartis Pharma and GSK. SF has received personal fees from AstraZeneca and Eli Lilly. HO has received a research grant from Boehringer Ingelheim. AN reports personal fees from Astellas, AstraZeneca, Kyorin, GSK, MSD, Shionogi, Bayer, Sanofi, Taiho, and Boehringer Ingelheim, and research grants from Astellas, Kyorin, Boehringer Ingelheim, Novartis, MSD, Daiichi Sankyo, Taiho, Teijin, Ono, Takeda, and Sanofi Pharmaceutical. Ethical Approval: This study was approved by the Ethics Committee of Gamagori City Hospital (approval number: 290–10, approval date: December 25, 2022) and registered with the UMIN Clinical Trial Registry (UMIN000050453). Furthermore, it was conducted in accordance with the principles of the Declaration of Helsinki and the Strengthening the Reporting of Observational studies in Epidemiology criteria for cross-sectional studies. Consent to Participate: Informed consent was obtained from all individual participants included in the study. Consent to Publication: Not applicable.

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Editorial

Lung

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. 2025 Dec 3;203(1):104.

doi: 10.1007/s00408-025-00859-7.

Refractory Chronic Cough is all in Your Head?

Stuart B Mazzone [1]

Affiliations Expand

- PMID: 41335146

- DOI: 10.1007/s00408-025-00859-7

No abstract available

Conflict of interest statement

Declarations. Competing Interests: Prof Mazzone declares honoraria from Merck, NeRRe Therapeutics, Reckitt Benckiser, Trevi Therapeutics, Chiesi, iNova, GSK and Bellus Health and grant support from Merck, Reckitt Benckiser and Bellus Health, outside of the submitted work.

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Vaccine

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. 2025 Dec 5:68:127895.

doi: 10.1016/j.vaccine.2025.127895. Epub 2025 Oct 28.

Trend and factors associated to pertussis and influenza vaccination in pregnant women in Madrid, Spain, 2018-2023 - a retrospective cohort study

María Alejandra López-Zambrano [1], Amaya Sánchez-Gómez [2], María Dolores Lasheras Carbajo [3], María Ángeles Gutierrez Rodríguez [4], Soledad Cañellas Llabrés [5], María Vazquez Torres [6], Marta Molina Olivas [7]

Affiliations Expand

- PMID: 41161042

- DOI: 10.1016/j.vaccine.2025.127895

Abstract

Background: Vaccination of pregnant women (PW) is an essential public health measure with benefits for both mothers and newborns. Vaccination against seasonal influenza and pertussis have been recommended in Spain for almost a decade; however, the adherence to this recommendation is variable. The objective of this study was to assess pertussis vaccination coverage (PVC) and influenza vaccination coverage (IVC) among PW in the region of Madrid, Spain, and to explore the factors associated with vaccination.

Methods: We conducted a retrospective cohort study using administrative registries. For PVC 197,984 PW who gave birth between 2019 and 2022 were included in the study. For IVC, 182,014 PW target of the 2018-19 to 2022-23 seasonal influenza campaigns were included. Generalized estimating equations were used to estimate factors associated with vaccination.

Results: The global VC in PW was 87.0 % for pertussis and 53.2 % for influenza. A peak was observed coinciding with the start of COVID-19 vaccination. Factors associated with lower probability of being vaccinated were mother born in a foreign country (Pertussis: aOR:0.73 (95 %CI:0.71-0.76); Influenza: aOR:0.71 (95 %CI:0.69-0.73)), enrolment in public healthcare insurance in last stages or after delivery (Pertussis: aOR:0.04 (95 %CI:0.04-0.05); Influenza: aOR:0.09 (95 %CI:0.08-0.11)) and home births (Pertussis: aOR:0.11 (95 %CI:0.08-0.16); Influenza: aOR:0.22 (95 %CI:0.15-0.31)). PW aged between 30 and 39 years old, with full term pregnancies, who live in areas with middle net incomes and have at least one chronic condition with indication for vaccination were more likely to be vaccinated.

Conclusion: Significant challenges remain to improve vaccination uptake in PW, particularly concerning influenza. These findings may prove useful to tailor strategies to reach specific subgroups within the PW population.

Keywords: Influenza vaccination; Pertussis vaccination; Pregnant women; Regression analysis; Spain; Vaccination coverage.

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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.

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

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Review

BMC Pulm Med

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. 2025 Dec 5;25(1):554.

doi: 10.1186/s12890-025-04027-8.

Allergic bronchopulmonary aspergillosis in patients with chronic obstructive pulmonary disease: a case series and literature review

Jiaqi Ren [#1], Ying Luo [#1], Lina Sun [1], Chun Chang [1], Yongchang Sun [2]

Affiliations Expand

- **PMID: 41350669**

- PMCID: PMC12681173

- DOI: 10.1186/s12890-025-04027-8

Abstract

Background: Allergic bronchopulmonary aspergillosis (ABPA) is a complex hypersensitivity disorder caused by Aspergillus sensitization, mostly associated with asthma, but occasionally seen in patients with chronic obstructive pulmonary disease (COPD). This study aimed to analyze the clinical features, treatment responses, and long-term follow-up of patients with ABPA-COPD overlap syndrome.

Methods: we identified 6 cases of ABPA with underlying COPD from a cohort of ABPA in our hospital. We described symptoms, imaging findings, serology tests, pulmonary functions and treatment outcomes of these cases.

Results: From January 1st, 2013 to December 31th, 2024, 63 cases of ABPA were diagnosed in our hospital, of them 6 (9.52%) were found to have underlying COPD. The 6 patients were all male, aging from 63 to 89 years, with 5 having a smoking history. The presenting symptoms included persistent cough, sputum and exertional dyspnea. The blood total IgE was markedly elevated (1230-2951 KU/L), and all tested positive for A. fumigatus-specific IgE. Blood eosinophil count was 90-1610 cells/μl. CT revealed bronchiectasis (predominantly lower lobes) and emphysema in all cases. Four patients responded well to oral corticosteroids, while 2 required omalizumab for disease control. After follow-up for 1-4 years, 4 patients remained stable, 1 had recurrent exacerbations, and 1 died due to multi-organ failure.

Conclusions: ABPA should be considered in COPD patients with persistent or recurrent respiratory symptoms, higher blood eosinophils, particularly those with bronchiectasis on chest CT. ABPA represents a treatable trait in COPD patients. While corticosteroids remain the first-line therapy, treatment-resistant cases may benefit from biologic agents.

Keywords: Allergic bronchopulmonary aspergillosis; Chronic obstructive pulmonary disease.

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Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Clinical Research Ethics Committees of Peking University Third Hospital ((M2023784), and as it was a retrospective study, exemption from informed consent was applied. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 30 references
- 1 figure

Supplementary info

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Drugs

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. 2025 Dec 5.

doi: 10.1007/s40265-025-02255-0. Online ahead of print.

Brensocatib: First Approval

Susan J Keam[1]

Affiliations Expand

- PMID: 41348269

- DOI: 10.1007/s40265-025-02255-0

Abstract

Brensocatib (BRINSUPRI™), an oral, small molecule, reversible inhibitor of dipeptidyl peptidase 1 (DPP1), is being developed by Insmed Incorporated under license from AstraZeneca for the treatment of neutrophil-mediated diseases, including non-cystic fibrosis bronchiectasis (NCFB), chronic rhinosinusitis without nasal polyps (CRSsNP) and hidradenitis suppurativa (HS). Brensocatib received its first approval on 12 August 2025 in the USA for the treatment of NCFB in adult and paediatric patients 12 years of age and older. Brensocatib received a positive opinion in the EU on 17 Oct 2025 and is also under regulatory review in the UK for this indication. This article summarizes the milestones in the development of brensocatib leading to this first approval for the treatment of NCFB.

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Conflict of interest statement

Declarations. Authorship and Conflict of Interest: During the peer review process the manufacturer of the agent under review was offered an opportunity to comment

on the article. Changes resulting from any comments received were made by the authors on the basis of scientific completeness and accuracy. Susan J. Keam is a contracted employee of Adis International Ltd/Springer Nature, and declares no relevant conflicts of interest. All authors contributed to this article and are responsible for its content. Ethics Approval, Consent to Participate, Consent to Publish, Availability of Data and Material, Code Availability: Not applicable.

- 19 references

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Editorial

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The expanding and accelerating universe of bronchiectasis

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No abstract available

Conflict of interest statement

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Seqirus, WHO EUR, Takeda and Zambon; finally, J.B. Soriano declares that he has never, directly or indirectly, received any funding from tobacco manufacturers or their affiliates. M.A. Martinez-Garcia has no potential conflicts of interest to disclose.

Comment on

- **Characterising research trends in bronchiectasis through AI-powered analytics.**

Narayana JK, Koo Wei Ling Y, Mac Aogáin M, Chotirmall SH.Eur Respir J. 2025 Dec 4;66(6):2500894. doi: 10.1183/13993003.00894-2025. Print 2025 Dec.PMID: 40876962 Free PMC article. Review.

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Review

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Characterising research trends in bronchiectasis through AI-powered analytics

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Abstract

Background: Interest in bronchiectasis is increasing and no prior study has used artificial intelligence (AI) to interrogate its rich, multidimensional literature to characterise research trends, themes and knowledge gaps.

Methods: We reviewed original bronchiectasis research between 1949 and 2024 (a 75-year period) to identify, characterise and assess research trends and trajectories using two AI-powered approaches: 1) Atlas, an AI topic-modelling tool; and 2) a custom model, leveraging ChatGPT embedding and text generation models.

Results: AI-powered analytics revealed a nine-fold increase in bronchiectasis research speed since 2000, typified by enhanced richness with four new research topics emerging every 5 years. Publication trends mirror clinical and technological advances, exemplified by significant rises in computed tomography, microbiome and clinical studies following the adoption of high-resolution computed tomography (1970s), next-generation sequencing (2005) and the first clinical guidelines (2008-2010), respectively. Topics with sustained growth (*i.e.* popular topics) include bronchiectasis-COPD overlap, microbiome infection, cardiovascular health and exacerbations. Those with sudden, short-term increased interest (*i.e.* trending topics) have focused on microbial pathogens and primary ciliary dyskinesia genetics. Mortality represents a nascent topic, demonstrating the highest year-on-year interest. Growth of research within the "vicious vortex" demonstrates thematic imbalance, with few studies overlapping with non-vortex components. Evolving research focus towards inflammation is evident, with increased work on comorbidities and quality of life demonstrating a shift from disease-centric to patient-centric research.

Conclusion: AI captures bronchiectasis as a dynamic and interdisciplinary field in continuing growth. Emerging research topics extend beyond the vicious vortex framework, indicating a transition from disease-centric to patient-centric approaches to optimise clinical care.

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Conflict of interest statement

Conflict of interest: S.H. Chotirmall has served on advisory boards for CSL Behring, Pneumagen Ltd., Zaccha Pte Ltd, Boehringer Ingelheim, GSK and Sanofi; on data monitoring boards for Inovio Pharmaceuticals and Imam Abdulrahman Bin Faisal University; and has received personal fees from AstraZeneca and Chiesi Farmaceutici, all unrelated to this work. The remaining authors have no potential conflicts of interest to disclose.

Comment in

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