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

1

Respir Res

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. 2026 Feb 14.

doi: 10.1186/s12931-026-03556-y. Online ahead of print.

Association between cardiovascular-kidney-metabolic syndrome and chronic obstructive pulmonary disease: a cross-national analysis from global, US, and Chinese populations

Qinghua Fan [#1], Fengzhen Zhang [#], Hongyan Wang [2], Yi Guo [3], Zhongjian Liu [3], Xiaolin Xu [3], Jingping Yang [2], Ping Yuan [4], Haibo Wang [5 6]

Affiliations Expand

- **PMID: 41691255**

- **DOI: 10.1186/s12931-026-03556-y**

Free article

No abstract available

Keywords: Cardiovascular-kidney-metabolic syndrome; Chronic obstructive pulmonary disease; Inflammation; Mediation analysis; Meta-analysis.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable, this study uses publicly available anonymous data. Competing interests: The authors declare no competing interests.

- 39 references

Supplementary info

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2

BMC Pulm Med

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. 2026 Feb 14.

doi: 10.1186/s12890-025-04020-1. Online ahead of print.

Inflammatory phenotype drives different immunosuppressive response in COPD exacerbations

Cristina Miralles [1], María Dolores Miñana [2], María Luisa Nieto [1], María Del Carmen Aguar [1], Victoria Domínguez-Márquez [3], Juan José Soler-Cataluña [4 5]

Affiliations Expand

- PMID: 41691196

- DOI: 10.1186/s12890-025-04020-1

Free article

No abstract available

Keywords: Chronic obstructive pulmonary disease; exacerbation; Eosinophilia; Immunophenotype; Immunosuppression.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was conducted in accordance with the Declaration of Helsinki and was approved by the Ethics Committee of the Arnau de Vilanova Hospital, Valencia, Spain. All participants gave

their informed consent. Consent for publication: Not applicable. Competing interests: JJSC has received speaker fees from AstraZeneca, Bial, Boehringer Ingelheim, Chiesi, FAES, GlaxoSmithKline, Grifols, Menarini and Sanofi, and consulting fees from AstraZeneca, Bial, Chiesi, GSK, Grifols and Sanofi, and grants from GSK. The rest of authors declare no competing interests.

- 42 references

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3

BMC Pulm Med

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. 2026 Feb 13.

doi: 10.1186/s12890-026-04166-6. Online ahead of print.

Efficacy and safety of mucolytic agents in patients with chronic obstructive pulmonary disease: a systematic review and network meta-analysis

Yilin Zhao [1], Mi Jing [1], Fei Wang [2]

Affiliations Expand

- PMID: 41688985

- DOI: 10.1186/s12890-026-04166-6

Free article

No abstract available

Keywords: Carbocisteine; Cineole; Erdosteine; Mucolytic agents; N-acetylcysteine; Obstructive pulmonary disease; Tyloxapol.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 51 references

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NPJ Prim Care Respir Med

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. 2026 Feb 14;36(1):14.

doi: 10.1038/s41533-026-00485-7.

Recognising the family physician in asthma and COPD guidelines: a necessary step for effective primary care implementation

Juan Sebastián Therán León [1 2]

Affiliations Expand

- PMID: 41688458
- PMCID: PMC12905168
- DOI: 10.1038/s41533-026-00485-7

Abstract

Asthma and chronic obstructive pulmonary disease (COPD) are the most prevalent chronic respiratory conditions globally, with management predominantly occurring in primary care settings. International guidelines from the Global Initiative for Asthma (GINA) and the Global Initiative for Chronic Obstructive Lung Disease (GOLD) have been instrumental in standardising care; however, these documents consistently use generic terminology such as "primary care physician" or

"healthcare provider" without explicitly recognising the family physician as a distinct medical specialty. This omission creates a conceptual gap that may undermine guideline ownership, implementation fidelity, and coordinated care pathways-particularly in low- and middle-income countries where family physicians constitute the backbone of chronic respiratory disease management. This letter argues that explicit recognition of family physicians in future GINA and GOLD updates, alongside inclusion of family medicine representatives in guideline development committees and creation of implementation toolkits for primary care settings, would strengthen guideline relevance, enhance primary care engagement, and ultimately improve respiratory health outcomes worldwide.

Conflict of interest statement

Competing interests: The author declares no competing interests. Use of AI Tools: The author used Claude (Anthropic) for assistance with literature search synthesis and manuscript formatting. The author takes full responsibility for the content, arguments, and conclusions presented in this letter.

- 13 references

Supplementary info

Publication types, MeSH termsExpand

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5

Respir Res

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. 2026 Feb 12.

doi: 10.1186/s12931-026-03545-1. Online ahead of print.

E-cigarette switching in COPD: reduced cardiovascular events without improvement in respiratory outcomes

Taeyun Kim [#1], Hyunsoo Kim [#2], Sun Hye Shin [3], Seoyoung Choi [3], Eunji Jeong [3], Chaiyoung Lee [4], Danbee Kang [5,6], Hye Yun Park [7]

Affiliations Expand

- PMID: 41680780

- DOI: 10.1186/s12931-026-03545-1

Free article

No abstract available

Keywords: COPD; Cardiovascular disease; E-cigarette; Exacerbation; Lung cancer; Smoking.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was approved by the Institutional Review Board of the Samsung Medical Center (IRB No. SMC 2024-03-120). The requirement for informed consent was waived due to the use of de-identified administrative data. All study procedures were conducted in accordance with relevant guidelines and regulations, including the Declaration of Helsinki. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 31 references

Supplementary info

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6

Semin Respir Crit Care Med

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. 2026 Feb 12.

doi: 10.1055/a-2811-3019. Online ahead of print.

PHYSIOPATHOLOGY OF EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Roberto Tonelli [1], Sofia Michelacci [2], Alessia Verduri [2], Enrico Clini [1]

Affiliations Expand

- PMID: 41679730

- DOI: 10.1055/a-2811-3019

Abstract

Acute exacerbations of chronic obstructive pulmonary disease (ECOPD) represent crucial events in the natural history of the disease. These are mainly characterized by abrupt worsening of respiratory symptoms, i.e. dyspnea, cough, sputum production. Defined by GOLD initiative as acute symptom deterioration requiring additional therapy, ECOPD markedly worsen lung function and strong clinical outcomes of any patient involved. Pathobiology is multidimensional, arising from inflammatory, mechanical, and cardiovascular perturbations that are linked each other and are likely to generate a self-reinforcing cycle of respiratory derangement and/or failure. Indeed, lung inflammation and injuries intensify airflow limitation, which in turn promotes air trapping and dynamic hyperinflation, increases elastic loads, and predisposes to respiratory muscle dysfunction. The resulting alterations of the blood gases may lead to even severe respiratory system failure and to a increased risk of dead.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Cite

7

Clin Res Cardiol

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. 2026 Feb 12.

doi: 10.1007/s00392-026-02858-x. Online ahead of print.

Early discharge after clinical stabilization in acute decompensated heart failure: associations with short-term outcomes

Gil Marcus [1 2], Shiri L Maymon [3 4], Eran Kalmanovich [5 4], Gil Moravsky [5 4], Ido Minha [6], Avishay Grupper [5 4], Shmuel Fuchs [5 4], Sa'ar Minha [5 4]

Affiliations Expand

- **PMID: 41677852**

- **DOI: 10.1007/s00392-026-02858-x**

Abstract

Background: Hospital length of stay (LOS) in acute decompensated heart failure (ADHF) lacks standardized thresholds. Prior studies using administrative data have reported neutral all-cause outcomes with very short hospital stays (1-2 days) despite higher cardiovascular readmissions, raising concerns about residual confounding from unmeasured clinical severity.

Methods: This is a retrospective cohort study of adults (≥ 18 years) hospitalized with ADHF at a single center in Israel between 2007 and 2017. We excluded in-hospital deaths and coronary artery bypass grafting (CABG) surgery cases. LOS was categorized as short (1-2 days), standard (3-6 days, reference), or prolonged (≥ 7 days).

Primary outcome: 30-day all-cause readmission or mortality. Cox models adjusted for age, sex, ischemic heart disease, atrial fibrillation, chronic kidney disease, diabetes, chronic obstructive pulmonary disease, peripheral vascular disease, and anemia. Restricted cubic splines with three knots at approximately the 10th, 50th, and 90th percentiles modeled continuous LOS, using 5 days as reference.

Results: Among 8332 patients with first ADHF hospitalization, 7455 were analyzed after excluding 707 in-hospital deaths and 170 CABG cases. Distribution by LOS: 1072 short (14.4%), 3457 standard (46.4%), 2926 prolonged (39.2%). Patients with a short LOS were younger (median 75 vs. 78 and 79 years), less often female, and had lower CKD (29.9% vs. 33.5% and 35.2%) and anemia (61.9% vs. 65.0% and 70.2%; all $p \leq 0.006$), with favorable discharge labs. Unadjusted 30-day composite rates were 19.9% (short), 21.6% (standard), and 28.6% (prolonged; $p < 0.001$). Adjusted HR for short vs. standard: 0.86 (95% CI 0.73-1.02, $p = 0.081$); prolonged vs. standard: 1.37 (95% CI 1.23-1.52, $p < 0.001$). Spline analysis showed a J-shaped curve: protective effect (HR < 1.0) for LOS 2-5 days, risk rising significantly beyond 6 days.

Conclusion: In a clinically detailed ADHF cohort, discharge after 1-2 days was not associated with higher 30-day readmission or mortality among patients selected for early discharge. In contrast, prolonged hospitalization identified a subgroup at substantially higher short-term risk, underscoring hospital length of stay as a marker of clinical complexity rather than a determinant of outcomes.

Keywords: Early discharge; Heart failure; Length of stay; Patient readmission; Restricted cubic spline.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Institutional Review Board of Shamir Medical Center with a waiver of

informed consent due to the retrospective nature of the study. Competing interests.: The authors declare no competing interests.

- **33 references**

Full text links

Proceed to details

Cite

8

Ann Am Thorac Soc

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. 2026 Feb 11:aaoag034.

doi: 10.1093/annalsats/aaoag034. Online ahead of print.

Disease Modification and Progression in Pre-Chronic Obstructive Pulmonary Disease. An Official American Thoracic Society Workshop Report

Nirupama Putcha [1], Surya P Bhatt [2], Jessica Bon [3], Stephanie A Christenson [4], MeiLan K Han [5], Jerry A Krishnan [6], Fernando J Martinez [7], Richard Casaburi [8], James D Crapo [9], Jeffrey L Curtis [5 10], Gregory B Diette [1], Mark T Dransfield [2], Michelle N Eakin [1], Ravi Kalhan [11], David M Mannino [12 13], Maria Montes de Oca [14], Hugh Musick [6], Steven M Rowe [2 15], Benjamin M Smith [16 17], Sundeep Salvi [18 19], Xavier Soler [20], Jadwiga A Wedzicha [21], Jean A Wright [12], Prescott G Woodruff [4], Robert A Wise [1], Valerie Chang [12], Bruce E Miller [12], Courtney Crim [12 22], M Bradley Drummond [22]; American Thoracic Society Clinical Problems Assembly and the American Thoracic Society Drug/Device Discovery and Development Committee

Collaborators, Affiliations Expand

- **PMID: 41671101**

- **DOI: 10.1093/annalsats/aaoag034**

Abstract

Chronic obstructive pulmonary disease (COPD) is a highly prevalent and burdensome disease that develops over decades. Treatments for COPD are most commonly prescribed in later stages of the disease, leaving missed opportunities to modify the course of disease at earlier stages. This workshop was conducted to promote progress in the design and conduct of clinical trials of treatments that modify progression to COPD. The aims of the workshop were to provide an

operational definition of pre-COPD and to discuss the elements and design of potential clinical trials in pre-COPD. The key focus areas of this workshop included: 1) defining a study population for pre-COPD clinical trials; 2) endpoints in pre-COPD clinical trials; and 3) design considerations for pre-COPD clinical trials.

Keywords: chronic obstructive pulmonary disease; clinical trials; disease progression; pre-COPD; respiratory function test.

9

Osteoporos Int

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. 2026 Feb 11.

doi: 10.1007/s00198-026-07847-4. Online ahead of print.

Comment on "Loss of muscle and bone mass with increased adiposity and fractures in patients with chronic obstructive pulmonary disease: a 5-year follow-up cohort study" (Osteoporosis International, 2025)

Dariush Moradi [1], Ali Namavar [2], Nima Masoudi [3]

Affiliations Expand

- PMID: 41670629

- DOI: 10.1007/s00198-026-07847-4

No abstract available

Conflict of interest statement

Declarations. Ethics approval: N/A. Consent to participate: N/A. Competing interests: The authors declare no competing interests.

- 6 references

Supplementary info

Publication typesExpand

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Cite

10

ERJ Open Res

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. 2026 Feb 9;12(1):00521-2025.

doi: 10.1183/23120541.00521-2025. eCollection 2026 Jan.

Respiratory morbidity 6 to 12 months after mechanical ventilation for life-threatening respiratory syncytial virus infection

Elianne J L E Vrijlandt [1 2], Diana W Wolthuis [3], Nanda W Renken [1], Anne F Sijmons [3], Gerard H Koppelman [1 2], Martin C J Kneyber [3 4]

Affiliations Expand

- PMID: 41668880

- PMCID: PMC12884380

- DOI: 10.1183/23120541.00521-2025

Abstract

Background: Respiratory morbidity in infants with life-threatening respiratory syncytial virus (RSV) infection necessitating invasive mechanical ventilation (MV) is underexplored. We therefore sought to characterise infant respiratory morbidity and pulmonary function 6 to 12 months after paediatric intensive care unit (PICU) discharge.

Methods: We invited 463 infants with RSV bronchiolitis necessitating MV (December 2011 to January 2023) for clinical assessments (structured interview, physical examination) and pulmonary function testing using whole-body plethysmography

and multiple breath washout (from 2016 onwards). Subjects were dichotomised by maximal expiratory flow at the functional residual capacity ($\dot{V}'_{max}$FRC) z-score (normal *versus* abnormal).

Results: Data from 219 out of 463 subjects (47.3%) were available for analysis (mean±sd age at follow-up 50±16 weeks and 40.3±14.2 weeks since PICU discharge). 180 (82.2%) subjects had parent-reported respiratory symptoms and 68 (31.1%) used bronchodilator treatment as needed. For the whole cohort, mean±sd FRCp z-score was 1.0±1.5 and $\dot{V}'_{max}$FRC z score was -1.42±1.1 compared to reference data. 72 (65%) subjects had lung clearance index values above the upper limit of normal. 24% of patients who underwent both tests had abnormal results in both tests. $\dot{V}'_{max}$FRC < -2 sd was found in 27.9% of subjects. Patient and clinical characteristics were equally distributed between subjects with and without abnormal lung function values ($\dot{V}'_{max}$FRC < -2 sd or lung clearance index above upper limit of normal). No risk factors for $\dot{V}'_{max}$FRC < -2 sd were identified in logistic regression analysis.

Conclusions: Evidence of small airway dysfunction was found in almost one-third of subjects who have been ventilated for life-threatening RSV disease, although not always accompanied by respiratory symptoms.

Conflict of interest statement

Conflict of interest: M.C.J. Kneyber reports research funding from NIH/NHBLI, ZonMW and Stichting Vrienden Beatrix Kinderziekenhuis; consultancy fees from Metran and Getinge; lecture fees from Vyaire, Getinge and Chiesi; being a member of the DSBM BESS trial and serving as Medical-President of the European Society for Paediatric and Neonatal Intensive Care. G.H. Koppelman reports research funding from the Netherlands Lung Foundation, Zon-MW (VICI grant), Ubbo Emmius Foundation, TEVA Netherlands and Vertex; consultancy fees from Astra Zeneca and PURE IMS; lecture fees from Astra Zeneca, Boehringer Ingelheim and Sanofi and serving as Chair and founder of the exquAIro foundation (implementing AI in medicine). E.J.L.E Vrijlandt, D.W. Wolthuis, N.W. Renken and A.F. Sijmons have no conflicts of interest to report.

- 49 references
- 2 figures

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ERJ Open Res

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. 2026 Feb 9;12(1):00035-2025.

doi: 10.1183/23120541.00035-2025. eCollection 2026 Jan.

Predictors of COPD exacerbations differ between grades of airflow limitation

Yi Lan [1], Rongchang Chen [2], Jinping Zheng [3], Yongchang Sun [4], Fuqiang Wen [5], Tao Ye [6], Chang Liu [7], Xiao Hu [6], Jody Goh [6], Chris Compton [8], Nanshan Zhong [3], Paul W Jones [8], Qianli Ma [1]

Affiliations Expand

- PMID: 41668878
- PMCID: PMC12884377
- DOI: 10.1183/23120541.00035-2025

Abstract

Background: History of exacerbations is a predictor of future exacerbations in COPD but there are also predictors that are independent of exacerbation history. However, it is unclear whether their relative contribution is consistent across different degrees of airflow limitation.

Methods: This analysis used data from COMPASS, a prospective study in COPD. Baseline demographics, clinical history, spirometry and patient-reported outcomes were collected. Multivariable models were created to predict moderate or severe exacerbations in the 18 months after baseline. Covariates included forced expiratory volume in 1 s (FEV_1) % predicted, Global Initiative for Chronic Obstructive Lung Disease (GOLD) grade, modified Medical Research Council (mMRC) and COPD Assessment Test (CAT) scores, and exacerbation history. Goodness of fit was tested using C-statistics.

Results: At baseline there were 1696 patients; 89.6% males, 46.9% current smokers, mean±sd age of 65.4±7.5 years, post-bronchodilator FEV_1 66.6±20.1% predicted and 0.5±1.0 moderate/severe exacerbations in the prior year. Over 18 months, 17.8% of patients had ≥1 moderate/severe exacerbation. The best fit model identified six independent variables, C-statistic 0.739. Subgroup analysis into GOLD grades I, II and III+IV combined showed different predictor patterns. In grade I, history of moderate exacerbations was the strongest predictor, together with chronic bronchitis and gastro-oesophageal reflux. In grades III+IV, only history of severe exacerbations and mMRC score were significant. Grade II showed an intermediate picture in which severe exacerbations, chronic bronchitis and gastro-oesophageal reflux were all significant.

Conclusions: There are multiple predictors of COPD exacerbations, which differ between GOLD grades. Future predictive models for exacerbation risk should take this into account.

Conflict of interest statement

Conflict of interest: Y. Lan, R. Chen, J. Zheng, Y. Sun, F. Wen, N. Zhong and Q. Ma are external experts working in affiliated hospitals of respective medical universities, and are core members of the COMPASS Steering Committee. T. Ye and C. Liu are employees of GSK. X. Hu, J. Goh and C. Compton are employees of GSK and hold financial equities in GSK. P. Jones is Emeritus Professor of Respiratory Medicine at St George's, University of London, and a former full-time employee of GSK at the time of protocol development, and contributed to study design and protocol on behalf of GSK; he is a part-time consultant at GSK and holds financial equities in GSK.

- **23 references**

Cite

12

Respir Res

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. 2026 Feb 11.

doi: 10.1186/s12931-026-03550-4. Online ahead of print.

Estimation of the global chronic obstructive pulmonary disease attributable to air pollution and projection in 2030: an analysis for the global burden of disease study 2021

Dong-Xue Ruan [# 1 2], Jian-Sen Li [# 2], De-Jian Zhao [2], Yong-Cheng Li [2], Shu-Jun Guo [1], Hong-Jun Huang [2], Wei-Jie Guan [3 4], Xue-Yan Zheng [5]

Affiliations Expand

- **PMID: 41668127**

- **DOI: 10.1186/s12931-026-03550-4**

Free article

No abstract available

Keywords: Air pollution; Ambient ozone pollution; Ambient particulate matter pollution; Burden of disease; COPD; Household air pollution from solid fuels.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 35 references

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Sci Rep

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. 2026 Feb 10.

doi: 10.1038/s41598-026-38985-8. Online ahead of print.

Airway mucus plugs in COPD clinical phenotypes and prognosis across stable and exacerbation states

Ling Lin [1 2 3 4], Tao Li [1 2 3 4], Ping Zhang [1 2 3 4], Qing Song [1 2 3 4], Cong Liu [1 2 3 4], Juan Chen [5], Yuqin Zeng [1 2 3 4], Yan Chen [1 2 3 4], Shanshan Chen [6], Ping Chen [7 8 9 10]

Affiliations Expand

- PMID: 41667564

- DOI: 10.1038/s41598-026-38985-8

Free article

No abstract available

Keywords: Airway mucus plugs; Chronic obstructive pulmonary disease; Exacerbation; Mortality; Pulmonary function change; Symptom change.

Conflict of interest statement

Declarations. Competing interests: The authors declare no competing interests. Ethics approval and consent to participate: This study was approved by an institutional review board from the Second Xiangya Hospital of Central South University and conducted in accordance with the Declaration of Helsinki (2016076). All patients were offered written informed consent. Clinical trial number: not applicable.

- **36 references**

Supplementary info

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Review

Thorax

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. 2026 Feb 10:thorax-2025-224712.

doi: 10.1136/thorax-2025-224712. Online ahead of print.

Review of the British Thoracic Society Winter Meeting 26-29 November 2025

Cara A Flynn [1], Aleksandra Ola Howell [2], Imran Howell [3], Anthony W Martinelli [4], Christine Mwasuku [5], Mona Bafadhel [5], Nicholas A Maskell [6 7], Richard Ek Russell [5]

Affiliations Expand

- **PMID: 41667268**

- **DOI: 10.1136/thorax-2025-224712**

Abstract

Background: The 2025 British Thoracic Society (BTS) Winter Meeting delivered 3 days of cutting-edge science, clinical innovation and networking in wintry Westminster. Over 2500 attendees from 36 countries gathered to share advances shaping the future of respiratory medicine.

Content: The programme opened with a session focused on emerging clinical trial data, showcasing pragmatic and mechanistic studies designed to address real-world challenges in respiratory care, setting the tone for a meeting focused on impact and innovation.Translational research featured strongly throughout the meeting, with organoids, precision-cut lung slices and air-liquid interface cultures providing new perspectives on disease mechanisms and therapeutic targets. Early career investigators presented discoveries in eosinophilic chronic obstructive pulmonary disease biology, microbiome-driven viral susceptibility and resistance risks in novel bronchiectasis therapies, while midcareer leaders advanced understanding of familial interstitial lung disease and virus-host interactions.Plenary sessions tackled pressing challenges, from air pollution and breathlessness diagnostics to genetic drivers of pulmonary hypertension, complemented by guest lectures on immune regulation, vaccine-preventable illness and drug discovery. Additionally, the meeting highlighted workforce transformation, emphasising the role of nurses, allied health professionals and pharmacists in delivering integrated, digitally enabled care.

Conclusion: Reminding us that progress rests on both scientific endeavour and enduring professional bonds, the 2025 BTS Winter Meeting reaffirmed that respiratory research is for everyone-an essential driver of advancement across disciplines. Multidisciplinary working and inclusive engagement will be key to shaping future care and ensuring that innovation translates into better outcomes for patients worldwide.

Keywords: Eosinophil Biology; Global Warming; Not Applicable; Respiratory Infection; Viral infection.

Conflict of interest statement

Competing interests: MB, Research Professor, NIHR304263 is funded by the NIHR. The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care; receives to her institution consultancy and speaker honouraria from AstraZeneca and Roche; grant funding to her institution from AstraZeneca, NIHR, EU Horizon and Asthma+Lung UK; scientific advisor for Albus Health; and science and research committee chair of British Thoracic Society. RER: Research Grant to institution from Verona Pharma; Chair of the BTS. NAM, immediate past president of the BTS. CAF, AM and I(O)H are members of the BTS Science and Research committee, which planned the conference.

Supplementary info

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BMC Pulm Med

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. 2026 Feb 9.

doi: 10.1186/s12890-026-04138-w. Online ahead of print.

Nomogram integrating inflammatory biomarkers predicts chronic obstructive pulmonary disease exacerbation Post-Rehabilitation

Ping Lv [#1], Xinyu Zhao [#2], Hongyun Zhang [3], Qian Lu [3], Ximing Liang [3]

Affiliations Expand

- PMID: 41664074

- DOI: 10.1186/s12890-026-04138-w

Free article

Abstract

Objective: To investigate the predictive value of a nomogram model integrating systemic inflammatory biomarkers for assessing acute exacerbation risk in chronic obstructive pulmonary disease (COPD) patients following pulmonary rehabilitation.

Methods: COPD patients who underwent pulmonary rehabilitation at our hospital from January 2022 to June 2024 were enrolled. Systemic inflammatory biomarkers were measured, and clinical data were collected. Patients were randomly divided into a training set and a validation set at a 7:3 ratio. Univariate analysis, Least Absolute Shrinkage and Selection Operator (LASSO) regression and multivariate logistic regression were used to determine independent influencing factors. An individualized nomogram prediction model was constructed. The discriminatory ability and calibration of the model were evaluated using the area under the receiver operating characteristic curve (AUC) and calibration curves, respectively.

Results: A total of 358 patients who were divided into a training set (n = 251) and a validation set (n = 107) were included. Multivariate logistic regression analysis showed that neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio

(PLR), high-sensitivity C-reactive protein, eosinophil percentage, COPD Assessment Test score, modified British Medical Research Council Dyspnoea Questionnaire, and forced expiratory volume in 1 s as a percentage of predicted value (FEV1% predicted) were significantly associated with acute exacerbation risk post-rehabilitation (all $P < 0.05$). The nomogram model based on these factors achieved an AUC of 0.774 (95% CI: 0.695-0.846) in the training set and 0.731 (95% CI: 0.589-0.866) in the validation set. Calibration curves demonstrated good agreement between predicted probabilities and actual risks.

Conclusion: The nomogram model integrating systemic inflammatory biomarkers demonstrated the potential to acute exacerbation risk in COPD patients after pulmonary rehabilitation, with PLR, eosinophil percentage, and NLR identified as key predictive indicators.

Keywords: Chronic obstructive pulmonary disease. acute exacerbation. systemic inflammation. biomarkers. nomogram.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The study was approved by the Ethics Committee of Chinese PLA General Hospital (Approval No. PLA-KYLS-01007), and informed consent was obtained from all patients. This study was conducted in accordance with the Declaration of Helsinki. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 24 references

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Cite

16

Intern Emerg Med

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. 2026 Feb 9.

doi: 10.1007/s11739-026-04279-0. Online ahead of print.

Hypercapnia at admission, regardless of acidosis, may worsen the outcome of hospitalised patients with chronic obstructive pulmonary disease exacerbations

Giulia Sartori [1], Alberto Fantin [1 2], Filippo Sartori [1], Albert Gabarrús [3], Ernesto Crisafulli [1], Antoni Torres [4]

Affiliations Expand

- **PMID: 41661467**

- **DOI: 10.1007/s11739-026-04279-0**

Abstract

In patients with exacerbation of chronic obstructive pulmonary disease (ECOPD), the presence of respiratory acidosis is considered "a marker of severity", identifying the need for ventilation treatment. The evaluation of ECOPD patients with hypercapnia, even without acidosis, may provide information on patients not commonly defined as "at risk". We retrospectively assessed 407 hospitalised patients with ECOPD, divided into three groups at admission: patients with normocapnia (N = 176), hypercapnia ($PaCO_2$ > 45 mmHg and pH ≥ 7.35, N = 126), and acidosis ($PaCO_2$ > 45 mmHg and pH < 7.35, N = 105). Data on general, clinical, laboratory and microbiological characteristics, and on outcomes (mortality up to 3 years), were collected. Patients with hypercapnia and acidosis had similar functional and clinical characteristics to their normocapnic peers, but of greater severity. The mortality rate at 1 year was similar between hypercapnic and acidotic patients (24% and 25%), and higher than that recorded in the normocapnic group (14%). Similar trends were observed in mortality from 6 months to 3 years. The presence of hypercapnia and acidosis was significantly associated with an increased and independent risk of death at 1 year. A threshold value of $PaCO_2$ ≥ 55 mmHg was associated with 1-year mortality. In a multivariate analysis considering the new threshold and compared to normocapnia, the presence of hypercapnia ($PaCO_2$ ≥ 55), regardless of acidosis, was independently associated with a higher mortality risk at 1 year. In hospitalised ECOPD patients, hypercapnia itself, even when compensated, is associated with a worse prognosis up to an intermediate-term follow-up. The need to ventilate these patients should be evaluated, regardless of the presence or absence of acidosis.

Keywords: Acidosis; COPD exacerbations; Hospitalisation; Hypercapnia; Outcomes; Prognosis.

Conflict of interest statement

Declarations. Conflict of interests: The authors declare that they have no competing interests regarding the contents reported in this manuscript. Ethical approval and consent to participate: The Ethics Committee of the hospital (Hospital Clínic of Barcelona, Spain) approved the study protocol (CEIC 2008/4106). The study was conducted in accordance with good clinical practices and the Declaration of Helsinki. All enrolled patients provided informed consent.

- **38 references**

Full text links

Cite

17

Review

Expert Rev Clin Immunol

. 2026 Feb 10:1-11.

doi: 10.1080/1744666X.2026.2625967. Online ahead of print.

The role of glucagon-like peptide-1 receptor agonists and sodium-glucose cotransporter-2 inhibitors in chronic obstructive pulmonary disease

Jordina S Y Mah [1], Pei Chia Eng [2], Chioma Izzi-Engbeaya [3 4], Lydia J Finney [1 4]

Affiliations Expand

- PMID: 41640042

- DOI: 10.1080/1744666X.2026.2625967

Abstract

Introduction: Chronic Obstructive Pulmonary Disease (COPD) is a leading cause of morbidity and mortality worldwide, with type 2 diabetes mellitus (T2DM), obesity, and cardiovascular disease being common co-morbidities associated with worse outcomes. Glucagon-like peptide-1 receptor agonists (GLP-1RAs) and sodium-glucose cotransporter-2 (SGLT2) inhibitors, which were originally developed for treatment of T2DM and/or obesity, have recently been shown to reduce exacerbations in observational studies of patients with COPD, suggesting that repurposing GLP-1RAs and SGLT2 inhibitors could improve clinical outcomes in COPD.

Areas covered: COPD, diabetes, and obesity share several common inflammatory pathways, including macrophage dysfunction, inflammasome activation, and metabolic dysregulation. Here we review the pharmacology, pre-clinical, and emerging clinical data which could support repurposing of GLP-1RAs and SGLT2 inhibitors for use in COPD through a search of articles in PubMed and Medline from 01/1950 to 08/2025.

Expert opinion: Reevaluating metabolic therapeutic targets has the potential to redefine treatment strategies for patients with COPD and metabolic comorbidities. Potential mechanisms of action could be via modulation of the NLRP3

inflammasome and macrophage polarization or better control of co-morbid conditions. However, randomized controlled trials and mechanistic studies are needed to confirm these observational findings and elucidate underlying mechanisms.

Keywords: Chronic obstructive pulmonary disease (COPD); exacerbations; glucagon-like peptide-1 (GLP-1) receptor agonist; inflammation; obesity; sodium-glucose cotransporter-2 (SGLT2) inhibitor; type 2 diabetes.

Supplementary info

Publication typesExpand

Full text links

Proceed to details

Cite

18

Review

Eur J Pharmacol

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. 2026 Feb 15:1015:178557.

doi: 10.1016/j.ejphar.2026.178557. Epub 2026 Jan 14.

Regulated cell death in COPD: Modulators, crosstalk mechanisms, and therapeutic opportunities

Weibin Ruan [1], Mingsi Huang [1], Xiaohua Li [1], Zhimin Peng [1], Yaqin Wei [1], Ziqing Mai [1], Mianluan Pan [1], Jiehua Deng [1], Xinyan Chen [1], Hui Zhang [2], Xia Meng [3], Jianquan Zhang [4]

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- **PMID: 41544689**

- **DOI: 10.1016/j.ejphar.2026.178557**

Abstract

Chronic obstructive pulmonary disease (COPD) is a progressive inflammatory airway disorder, with emerging evidence highlighting the central role of regulated cell death (RCD) in its pathogenesis. However, the regulatory mechanisms, crosstalk between different RCD pathways, and their role in intercellular communication remain poorly understood. This review examines major forms of RCD (apoptosis, necroptosis, ferroptosis, pyroptosis, NETosis, and PANoptosis) in COPD, exploring their regulation, crosstalk, role in intercellular signaling, and potential as therapeutic targets. Mechanistically, RCD is regulated through membrane receptors, epigenetic modifications, and post-translational processes. Endoplasmic reticulum (ER) stress, reactive oxygen species, and autophagy serve as common nodes across multiple RCD types. Excessive ER stress triggers apoptosis, while impaired autophagy promotes oxidative stress, cellular senescence, and inflammation. Conversely, excessive autophagy-including mitophagy, ferritinophagy, lysosomal autophagy, ER-phagy, and chaperone-mediated autophagy-can induce apoptosis, necroptosis, and ferroptosis. Regarding inter-pathway crosstalk and RCD-mediated intercellular communication: reduced macrophage apoptosis exacerbates epithelial inflammation and apoptosis; macrophage inflammation or ferroptosis can further promote epithelial ferroptosis or inflammatory responses. Ferroptosis in airway epithelial cells aggravates their own pyroptosis, and pyroptotic epithelial cells secrete exosomes that induce macrophage pyroptosis. NETotic neutrophils release extracellular DNA, driving inflammation in airway epithelia. Therapeutically, current exploratory strategies target these death pathways through diverse approaches, including existing pharmaceuticals, hormones, phytochemicals, recombinant proteins and nucleic acids, stem cell and regenerative therapies, and modulation of the airway microbiome. Deciphering the RCD network in COPD not only enhances our understanding of disease heterogeneity but also paves the way for developing precision therapeutics.

Keywords: Airway microbiome; COPD; Epigenetics; Natural compounds; Regulated cell death; Stem cells.

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.

Supplementary info

Publication types, MeSH termsExpand

Full text links

19

Review

Clin Chim Acta

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. 2026 Feb 15:582:120799.

doi: 10.1016/j.cca.2025.120799. Epub 2025 Dec 19.

Myeloperoxidase as a Biomarker in COPD

A Rekha [1], Gaurav Gupta [2], Pareshkumar N Patel [3], Shefali [4], G PadmaPriya [5], Laxmidhar Maharana [6], Moayad Al Shahwan [7], Popat S Kumbhar [8], Keshav Raj Paudel [9], Kavita Goyal [10], Sachin Kumar Singh [11], Kamal Dua [12]

Affiliations Expand

- PMID: 41422852

- DOI: 10.1016/j.cca.2025.120799

Abstract

This is a critical review of the myeloperoxidase (MPO) biomarker in chronic obstructive pulmonary disease (COPD), covering its biological potential, methodology of analysis, and clinical use. Chronic inflammation and oxidative stress mediated by neutrophils are critical processes in COPD, wherein MPO, a heme peroxidase derived from neutrophils, functions as an effector and potentially as a biomarker. Patients with COPD and smokers have a high concentration of MPO in their biological compartments, which correlates with neutrophilic load, oxidative injury, and airflow obstruction. Analytical investigations have shown that it is possible to measure MPO levels in serum, plasma, sputum, and exhaled breath condensate (EBC). Nonetheless, there is significant preanalytical variability, particularly concerning the distinction between serum and plasma. Serum MPO levels are often elevated due to ex vivo neutrophil degranulation during the clotting process, suggesting that plasma may provide a more accurate measure of circulating MPO levels. While MPO shows promise, particularly when integrated into multi-marker panels for inflammatory endotyping and risk stratification, its clinical application remains limited due to the lack of standardized assays and inter-study harmonization of results. This review summarizes the existing evidence of MPO as a biomarker of neutrophil-mediated COPD inflammation, and it can be noted that although biologically plausible, it requires further rigorous standardization and validation of specific matrices (plasma vs. serum) and inclusion into compound biomarker approaches to be translated into clinics.

Keywords: Analytical methods; Biomarker; COPD; Clinical validation; Myeloperoxidase; Oxidative stress; Plasma; Serum.

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.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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

Review

Lancet

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. 2026 Feb 10:S0140-6736(25)02064-1.

doi: 10.1016/S0140-6736(25)02064-1. Online ahead of print.

New drug therapies for hypertension

Michel Azizi [1], Katherine R Tuttle [2], Jenifer M Brown [3], Daniel L Piskorz [4], Kazuomi Kario [5], Bryan Williams [6]

Affiliations Expand

- **PMID: 41687677**

- **DOI: 10.1016/S0140-6736(25)02064-1**

Abstract

Despite the availability of effective antihypertensive therapies, global blood pressure control rates remain unacceptably low. Contributing factors, such as low treatment adherence, therapeutic inertia, and rising multimorbidity, underscore the need for innovative approaches to improve hypertension care. New

antihypertensive drug therapies that act on physiological pathways beyond those targeted by conventional drug classes are emerging. These therapies include small interfering RNA agents that inhibit angiotensinogen synthesis as a novel approach to inhibit the renin-angiotensin system, and new strategies to more selectively modulate aldosterone, such as aldosterone synthase inhibitors and non-steroidal mineralocorticoid receptor antagonists. There is also growing interest in therapies to enhance the action of the natriuretic peptide system. Although these innovations present valuable therapeutic opportunities, their benefits must be carefully balanced against considerations of safety, cost, clinical outcomes, and equitable access-all of which are crucial to reducing the residual burden of cardiovascular and chronic kidney disease.

Conflict of interest statement

Declaration of interests MA reports institutional grants from Novartis, Recor Medical, AstraZeneca, and Sonivie; consulting fees from Novartis, Recor Medical, AstraZeneca, Alnylam, Medtronic, and Sonivie; honoraria for lectures from Servier, NovoNordisk, Boehringer Ingelheim, and Alnylam; and travel support from Novartis. KRT reports investigator-initiated grant support from Travere, Bayer, Benaroya Research Institute, and the Doris Duke Charitable Foundation; consultancy fees from Boehringer Ingelheim, Eli Lilly, Novo Nordisk, Roche–Genentech, AstraZeneca, and ProKidney; speaker fees from Novo Nordisk, Bayer, and Boehringer Ingelheim; travel support from Bayer and Novo Nordisk; is chair of data safety monitoring boards for the National Institute of Diabetes and Digestive and Kidney Disease and for the George Clinical Institute; is a member of the data safety monitoring board for AstraZeneca; is chair for the Diabetic Kidney Disease Collaborative for the American Society of Nephrology and for the Kidney Week 2025 Program Committee; and is a member of the American Heart Association/American College of Cardiology Cardiovascular–Kidney–Metabolic Guideline Committee. JMB reports consulting fees from AstraZeneca, Bayer, and Recordati Rare Diseases; and funding from the American Heart Association (grant 21CDA852429) and US National Institutes of Health/National Heart, Lung, and Blood Institute (grant K23HL159279). DLP reports consulting fees, honoraria, participation on an advisory board, and travel support from Novo Nordisk. KK reports research grants from Otsuka Pharmaceutical, Daiichi Sankyo, Sumitomo Pharma, and Nippon Boehringer Ingelheim; consulting fees from Sanwa Kagaku Kenkyusho; honoraria from Otsuka Pharmaceuticals, Daiichi Sankyo, Novartis Pharma, and Viatris; and participation on advisory boards for Daiichi Sankyo and Novartis Pharma. BW is Chief Scientific and Medical Officer of the British Heart Foundation; reports consulting fees from Novartis, AstraZeneca, Alnylam, and Antlia; and reports honoraria from Medtronic.

Supplementary info

Publication typesExpand

Full text links

Cite

2

Review

Ageing Res Rev

. 2026 Feb 10:117:103060.

doi: 10.1016/j.arr.2026.103060. Online ahead of print.

Quality and recommendations of guidelines for multimorbidity and polypharmacy in older adults: A systematic review

Jiang Yang [1], Huiru Li [1], Yaolong Chen [2], Tao Chen [3], Qionghua Xiao [1], Hulei Zhao [4], Jianxin Wang [5], Suyun Li [4], Yang Xie [4], Brian Oliver [6], Minghang Wang [7], Jiansheng Li [8]

Affiliations Expand

- PMID: 41679655

- DOI: 10.1016/j.arr.2026.103060

Abstract

Background: Global population aging exacerbates the challenges of multimorbidity and polypharmacy in older adults. Clinical practice guidelines are essential for addressing these issues. This systematic review aims to evaluate the quality of existing guidelines and synthesize their recommendations based on the Ariadne principles, to inform future guideline development and clinical practice.

Methods: We searched nine databases and five guideline repositories (e.g., PubMed, Web of Science, Cochrane Library, CNKI, WHO) up to August 2025. Guidelines and consensus documents focusing on multimorbidity or polypharmacy in older adults, published in English or Chinese, were included. Each guideline was evaluated using four validated tools: AGREE II (methodological quality), RIGHT (reporting completeness), AGREE-REX (recommendation credibility and applicability), and GLIA (implementation feasibility). Recommendations were categorized and synthesized according to the Ariadne principles, with independent screening and data extraction and consensus resolution of discrepancies.

Results: The multidimensional appraisal of the 21 included guidelines revealed consistent weaknesses. According to AGREE II, the domains of Scope and Purpose (81.9 %) and Clarity of Presentation (61.1 %) demonstrated the highest median

scores, whereas Rigor of Development (16.7 %) and Applicability (8.3 %) scored the lowest. Based on the RIGHT checklist, overall reporting completeness was 43.2 %, with the Evidence (0.0 %) and Quality Assurance (0.0 %) domains being particularly underreported. AGREE-REX evaluation indicated limited implementability at the individual recommendation level (12.5 %), and GLIA, while suggesting moderate implementability at the guideline level (65.4 %), identified frequent barriers in the domains of Measurable Outcomes (100.0 %) and Innovation Requirements (66.7 %). Thematically, most guidelines addressed interaction assessment (n = 15, 71.4 %), but far fewer incorporated patient preferences (n = 9, 42.9 %) or monitoring strategies (n = 9, 42.9 %). Only three guidelines (14.3 %) fully adhered to all five steps of Ariadne principles.

Conclusion: Current guidelines for older adults with multimorbidity or polypharmacy exhibit substantial weaknesses in methodological rigor, reporting completeness, and implementation feasibility. Synthesis based on the Ariadne principles revealed an imbalanced pattern of recommendations, with a predominant focus on medication safety rather than patient-centered and longitudinal care management. Future guideline development should strengthen methodological processes, systematically integrate patient perspectives, and co-design practical implementation strategies to better support personalized care for an aging population.

Keywords: Guidelines; Multimorbidity; Older adults; Polypharmacy; Systematic review.

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.

Supplementary info

Publication typesExpand

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Cite

3

Cardiovasc Drugs Ther

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. 2026 Feb 12.

doi: 10.1007/s10557-025-07825-8. Online ahead of print.

Potentially Clinically Significant Drug-Drug Interactions in Older Adults with Atrial Fibrillation and Multimorbidity: Prevalence, Correlates, and Association with Adverse Clinical Outcomes in a Swedish National Register-Based Study

Cheima Amrouch [1 2], Davide Liborio Vetrano [3 4], Dirk De Bacquer [5], Nicola Ferri [6], Ine Simal [7 8], Cecilia Damiano [9], Lu Dai [10], Amaia Calderón-Larrañaga [3 4], Astrid D H Brys [11], Anton De Spiegeleer [11 12], Gregory Y H Lip [13 14], Søren P Johnsen [14], Jonas W Wastesson [3 15], Kristina Johnell [15], Delphine De Smedt [5], Mirko Petrovic [7]

Affiliations Expand

- PMID: 41673204

- DOI: 10.1007/s10557-025-07825-8

Abstract

Purpose: Current research on potentially clinically significant drug-drug interactions (DDIs) in individuals with atrial fibrillation (AF) has predominantly focused on DDIs involving direct oral anticoagulants (DOACs), with limited evidence regarding other medications. Our study aimed to: (i) assess the overall prevalence of DDIs; (ii) investigate potential demographic correlates of DDIs; and (iii) examine the association of DDIs with adverse clinical outcomes in a nationwide cohort of older adults with AF and multimorbidity.

Methodology: Data from the Swedish national registers were linked to establish a cohort with a 2-year follow-up of adults ≥ 65 years who, on 1 January 2017, had a diagnosis of AF, ≥ 1 comorbidity and were prescribed ≥ 2 medications (n = 192,716). This study describes the prevalence of 72 potentially clinically significant DDIs from an adapted explicit international consensus list and a review focused specifically on DDIs involving DOACs. Correlates of DDIs were assessed through logistic regressions. Cox regression analyses were conducted to examine the association between DDIs and adverse clinical outcomes: overall and cardiovascular (CV) mortality, overall and CV hospitalisation, stroke, bleeding, and falls.

Results: In the overall population, 37.5% presented with ≥ 1 potential DDI, with CV (33.8%) and central nervous system (CNS) drugs (12.4%) most frequently involved. Sex, age, and civil status were most consistently associated with DDIs. Individuals with ≥ 1 DDI had a higher hazard of CV death (hazard ratio 1.28 95% confidence interval (CI) [1.24-1.32]), CV hospitalisation (1.12 [1.10-1.15]) and falls (1.06 [1.02-1.09]). DDIs with DOACs were associated with gastrointestinal bleeding (2.80 [1.35-5.81]). DDIs with CNS drugs were associated with stroke (1.19 [1.09-1.29]) and falls (1.32 [1.27-1.39]).

Conclusion: Potentially clinically significant DDIs were prevalent in older adults with AF and multimorbidity, with adverse clinical implications. Identifying these high-risk groups is essential for preventive strategies and effective clinical management.

Keywords: Adverse clinical outcomes; Atrial fibrillation; Drug-drug interactions; Multimorbidity; Pharmacoepidemiology; Polypharmacy.

Conflict of interest statement

Declarations. Ethics Approval: The studies involving humans were approved by Ethical approval was granted by the Regional Ethical Review Board of Stockholm (dnr: 2016/1001–31/4, 356 2020–03525; 2021–02004). The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required from the participants or the participants' legal guardians/next of kin because the data sources are national health registers. Consent for Publication: Informed consent for publication was not required from the participants or the participants' legal guardians/next of kin because the data sources are national health registers. Consent to Participate: Informed consent for participation was not required from the participants or the participants' legal guardians/next of kin because the data sources are national health registers. Competing interests: LD is employed by Vantive. GL declares consultancy and speaker fees from BMS/Pfizer, Boehringer Ingelheim and Daiichi-Sankyo. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

- **67 references**

Supplementary info

Grants and fundingExpand

Full text links

Cite

4

Sci Rep

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. 2026 Feb 11.

doi: 10.1038/s41598-026-39777-w. Online ahead of print.

Triglyceride-glucose index, genetic susceptibility, and trajectory of microvascular multimorbidity in type 2 diabetes

Xiangling Yuan [#1,2], Min Peng [#2], Xuan Shi [3], Dahong Yang [4], Fang Wang [5], Chao Hou [6], Gelin Xu [7,8]

Affiliations Expand

- PMID: 41673083

- DOI: 10.1038/s41598-026-39777-w

Free article

No abstract available

Keywords: Diabetic microvascular multimorbidity; Genetic susceptibility.

Conflict of interest statement

Declarations. Competing interests: The authors declare no competing interests. Ethics approval and consent to participate: This study was conducted using data from the UK Biobank under application number 540121. Ethical approval was obtained from the North West Multi-Centre Research Ethics Committee.

- 44 references

Supplementary info

Grants and fundingExpand

Full text links

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Cite

5

BMJ Open

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. 2026 Feb 10;16(2):e103243.

doi: 10.1136/bmjopen-2025-103243.

Prevalence of multimorbidity and uptake of guideline-directed medicines for cardiovascular conditions in Australian hospitalised adults: a cross-sectional study

Joshua M Inglis [1,2], Gillian E Caughey [3,4,5], Danny Liew [6], Sepehr Shakib [7,8]

Affiliations Expand

- **PMID: 41667178**

- **DOI: 10.1136/bmjopen-2025-103243**

Free article

Abstract

Objectives: Multimorbidity, defined as two or more chronic medical conditions, leads to the use of multiple medicines, including for cardiovascular conditions. This is associated with frailty and an increased risk of medication-related harm. Hospitalised adults have higher rates of multimorbidity and frailty compared with non-hospitalised adults. The aim of this study was to examine the use of medicines for hypertension, ischaemic heart disease and atrial fibrillation among patients with multimorbidity and frailty, who are generally not well represented in clinical trials.

Design: A cross-sectional study was performed of adults aged ≥45 years with inpatient admissions during an 18-month period. Regular medications prescribed at discharge and coding data were obtained from the electronic medical record and hospital datasets.

Primary and secondary outcome measures: The prevalence of multimorbidity (using coded chronic medical conditions or the RxRisk pharmaceutical comorbidity index), frailty (using hospital frailty risk score) and polypharmacy (defined as ≥5 medicines) were calculated. The uptake of medicines recommended by the Australian Therapeutic Guidelines for patients with coded hypertension, ischaemic heart disease and atrial fibrillation was also assessed.

Setting: Two large acute care, teaching hospitals in Adelaide, South Australia.

Participants: 23 980 unique patients were identified.

Results: 69% (n=16 637) of patients had multimorbidity using the coding definition compared with 94% (n=22 620) using the pharmaceutical comorbidity score. 81% (n=19 366) had polypharmacy and 46% (n=11 091) had frailty. More than 85% of patients with hypertension were taking an antihypertensive. More than 75% of patients with ischaemic heart disease were taking an antithrombotic or a lipid-lowering agent and more than 50% were taking an agent acting on the renin-angiotensin system. Over 70% of patients with atrial fibrillation without a contraindication to anticoagulation were taking an anticoagulant. Patients with multimorbidity were 11-51% more likely to be taking an antihypertensive, antithrombotic or lipid-lowering medicine for the respective cardiovascular conditions, whereas those with frailty were 31-48% less likely to be taking guideline-directed medicines for all conditions studied.

Conclusions: Over two-thirds of hospitalised patients with these cardiovascular conditions were taking at least one guideline-directed medicine. Medication use was generally more common in multimorbidity and less common in frailty. Outcomes studies are needed to quantify the risks and benefits of cardiovascular medicines in these patients.

Keywords: Cardiovascular Disease; Drug Utilization; Frailty; Multimorbidity; Polypharmacy.

Conflict of interest statement

Competing interests: None declared.

Supplementary info

MeSH terms, SubstancesExpand

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

1

NPJ Prim Care Respir Med

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. 2026 Feb 14;36(1):14.

doi: 10.1038/s41533-026-00485-7.

Recognising the family physician in asthma and COPD guidelines: a necessary step for effective primary care implementation

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Affiliations Expand

- PMID: 41688458
- PMCID: PMC12905168
- DOI: 10.1038/s41533-026-00485-7

Abstract

Asthma and chronic obstructive pulmonary disease (COPD) are the most prevalent chronic respiratory conditions globally, with management predominantly occurring in primary care settings. International guidelines from the Global Initiative for Asthma (GINA) and the Global Initiative for Chronic Obstructive Lung Disease (GOLD) have been instrumental in standardising care; however, these documents consistently use generic terminology such as "primary care physician" or "healthcare provider" without explicitly recognising the family physician as a distinct medical specialty. This omission creates a conceptual gap that may undermine guideline ownership, implementation fidelity, and coordinated care

pathways-particularly in low- and middle-income countries where family physicians constitute the backbone of chronic respiratory disease management. This letter argues that explicit recognition of family physicians in future GINA and GOLD updates, alongside inclusion of family medicine representatives in guideline development committees and creation of implementation toolkits for primary care settings, would strengthen guideline relevance, enhance primary care engagement, and ultimately improve respiratory health outcomes worldwide.

Conflict of interest statement

Competing interests: The author declares no competing interests. Use of AI Tools: The author used Claude (Anthropic) for assistance with literature search synthesis and manuscript formatting. The author takes full responsibility for the content, arguments, and conclusions presented in this letter.

- 13 references

Supplementary info

Publication types, MeSH termsExpand

Full text links

2

J Allergy Clin Immunol Pract

. 2026 Feb 11:S2213-2198(26)00134-0.

doi: 10.1016/j.jaip.2026.01.041. Online ahead of print.

Efficacy of tezepelumab in patients with severe, uncontrolled asthma receiving high-dose inhaled corticosteroids in NAVIGATOR

Guy Brusselle [1], Jasper H Kappen [2], Katrin Milger [3], Evelyne Frijns [4], Neda Stjepanovic [5], Claudio Marchese [6], Jean-Pierre Llanos [7], Stephanie L Roseti [8], Amit Parulekar [9]

Affiliations Expand

- PMID: 41687868

- DOI: 10.1016/j.jaip.2026.01.041

No abstract available

Keywords: High dose; ICS; Severe asthma; TSLP; Thymic stromal lymphopoietin.

Full text links

Proceed to details

Cite

3

Respir Investig

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. 2026 Feb 12;64(2):101384.

doi: 10.1016/j.resinv.2026.101384. Online ahead of print.

Response to the critical appraisal of "Effects of Daikin air purifiers on asthma control and pulmonary function: A multicenter, single-arm, observational pilot study"

Satoshi Hamada [1], Susumu Sato [2], Shota Hori [3], Shiqi Yu [3], Hironobu Sunadome [4], Kimihiko Murase [5], Toyohiro Hirai [4]

Affiliations Expand

- **PMID: 41687289**

- **DOI: 10.1016/j.resinv.2026.101384**

No abstract available

Conflict of interest statement

Declaration of competing interest Satoshi Hamada and Kimihiko Murase receive research grant from Teijin Pharma Ltd., outside the submitted work. Shota Hori and Shiqi Yu are employees of Daikin Industries, Ltd. Susumu Sato receives grants from Philips Japan Ltd., ResMed Japan, FUJIFILM Co., Ltd., and Nippon Boehringer Ingelheim Co., Ltd., outside the submitted work. Hironobu Sunadome receives grants from Philips Japan Ltd. and ResMed Japan, outside the submitted work. Toyohiro Hirai receives research grant from Daikin Industries, Ltd. related to submitted work. Also, he received lecture fees from AstraZeneca K.K. and Nippon Boehringer Ingelheim Co., Ltd., research grants from DAIICHI SANKYO Co., Ltd., Teijin Pharma Ltd., and FUJIFILM Co., Ltd., and scholarship donation from Sanofi

K.K., TAIHO Pharmaceutical Co., Ltd., Chugai Pharmaceutical Co., Ltd., and Nippon Boehringer Ingelheim Co., Ltd., outside the submitted work.

Supplementary info

Publication typesExpand

Full text links

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Cite

4

Review

Expert Opin Drug Metab Toxicol

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. 2026 Feb 13.

doi: 10.1080/17425255.2026.2632668. Online ahead of print.

Pharmacological interactions between asthma and T2DM therapies: clinical and metabolic implications

Maria Gabriella Matera [1], Clive Page [2], Luigino Calzetta [3], Paola Rogliani [4], Mario Cazzola [4]

Affiliations Expand

- PMID: 41685674

- DOI: 10.1080/17425255.2026.2632668

Abstract

Introduction: Asthma and type 2 diabetes mellitus (T2DM) frequently coexist and share overlapping immunometabolic pathways. Pharmacotherapies used to treat either condition may influence the course of the other, leading to clinically relevant cross-effects.

Areas covered: This narrative review synthesizes evidence on the bidirectional pharmacologic interactions between asthma and T2DM therapies, focusing on the metabolic consequences of asthma medications and the pulmonary effects of

glucose-lowering agents. We highlight mechanistic links, comparative clinical impacts, and phenotype-specific considerations.

Expert opinion: Systemic corticosteroids and, to a lesser extent, high-dose inhaled corticosteroids, increase the risk of insulin resistance and hyperglycemia. β2-agonists may acutely raise glucose levels, whereas leukotriene antagonists and LAMAs have minimal metabolic impact. Biologics indirectly benefit metabolic control by allowing steroid reduction, with dupilumab showing the most favorable profile. Among antidiabetic agents, metformin and GLP-1 receptor agonists robustly improve asthma outcomes, and SGLT2 inhibitors show promising signals. Insulin may worsen airway hyperresponsiveness through proliferative and immunologic pathways. Clinicians must navigate these interactions thoughtfully, especially in type 2-low and obesity-associated asthma, where metabolic dysfunction dominates disease expression. Evidence-based guidance remains lacking, underscoring the need for integrated, phenotype-driven approaches.

Keywords: Asthma; T2DM; antidiabetic drugs; asthma therapies; bidirectional drug interactions.

Supplementary info

Publication typesExpand

Full text links

Proceed to details

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Pulm Ther

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. 2026 Feb 12.

doi: 10.1007/s41030-026-00346-1. Online ahead of print.

A Pragmatic RCT of FF/UMEC/VI in Patients with Uncontrolled Asthma: PERFORM Protocol

Stephen G Noorduyn [1 2], Nicola Brown [3], Jodie Crawford [4], Lydia Demetriou [5], Afisi S Ismaila [6 7], Lawrence Mbuagbaw [6], Sameer Parpia [6], Behnam Sadeghirad [8], David Slade [9], Alison C Moore [10]

Affiliations Expand

- PMID: 41673353

- DOI: 10.1007/s41030-026-00346-1

Free article

Abstract

Introduction: Asthma imposes a high disease burden, with approximately half of patients experiencing uncontrolled disease despite inhaled corticosteroid/long-acting β_2-agonist (ICS/LABA) therapy. A previous randomised controlled trial demonstrated clinical benefits of fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VI) single-inhaler triple therapy (SITT) versus FF/VI dual therapy in patients with moderate-severe asthma without a requirement for exacerbation history. Here, we present the protocol for the PERFORM pragmatic trial, comparing the effectiveness of initiating FF/UMEC/VI SITT via the ELLIPTA® inhaler (GSK) versus continuing or initiating non-ELLIPTA ICS/LABA usual care for a broad patient population with uncontrolled asthma.

Methods: PERFORM is a 52-week, stratified, randomised, open-label, active-controlled, parallel-group, global pragmatic trial enrolling adult patients with uncontrolled asthma, currently untreated or treated with ICS or ICS/LABA therapy. Patients will be randomised 1:1 to either initiate once-daily FF/UMEC/VI (intervention) or continue or initiate non-ELLIPTA ICS/LABA (control), receiving treatment in a usual care setting. The primary endpoint is the change from baseline in trough forced expiratory volume in 1 s at week 24. The key secondary endpoint is whether patients achieve improvement (≥ 0.5-point decrease from baseline) in the Asthma Control Questionnaire-7 score at week 24. Other secondary endpoints include clinical remission, health-related quality of life, and work and activity impairment. The trial aims to randomise 1136 patients (568 per arm).

Planned outcomes: PERFORM is a pragmatic randomised controlled trial generating data relevant to a broad population of patients with uncontrolled asthma representative of routine clinical practice. This trial will also include the first prospective data on clinical remission for patients treated with inhaled therapy.

Keywords: Asthma control; Clinical remission; FF/UMEC/VI; Inhaled therapy; Lung function; Randomised pragmatic effectiveness trial; Real-world; Study protocol.

Conflict of interest statement

Declarations. Conflict of Interest: Lawrence Mbuagbaw, Sameer Parpia and Behnam Sadeghirad have nothing to disclose. Stephen G. Noorduyn, Nicola Brown, Jodie Crawford, Lydia Demetriou, Afisi S. Ismaila, David Slade and Alison C. Moore are employees of and hold financial equities in GSK. Stephen G. Noorduyn is also a PhD candidate at McMaster University, Hamilton, ON, Canada. Afisi S. Ismaila is also an unpaid part-time member of McMaster University. Ethical Approval: This protocol was approved by the ethics committee (Table S1). All patients will be asked to provide written informed consent. This trial will be conducted in accordance with applicable local regulations and the principles stated in the Declaration of Helsinki of 1964 and its later amendments, the Council for International Organisations of Medical Sciences International Ethical Guidelines for Health-related Research

Involving Humans, and the International Conference on Harmonisation Tripartite Guideline for Good Clinical Practice.

- 42 references

Supplementary info

Grants and fundingExpand

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BMJ Open Respir Res

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. 2026 Feb 10;13(1):e003845.

doi: 10.1136/bmjresp-2025-003845.

Functional respiratory imaging reveals early structural and functional airway responses to benralizumab in severe eosinophilic asthma

Lennart Conemans [1 2], Qichen Deng [3 2], Sami O Simons [3 2], Frits M E Franssen [3 2], Martijn A Spruit [3 4], Bita Hajian [5]

Affiliations Expand

- PMID: 41672576

- DOI: 10.1136/bmjresp-2025-003845

Free article

Abstract

Background: Benralizumab improves outcomes in severe eosinophilic asthma (SEA). We aimed to evaluate early effects of benralizumab on airway pathophysiology using functional respiratory imaging (FRI).

Methods: In this prospective, single-arm study, 20 adults with SEA underwent CT at baseline, 4 and 12 weeks. Coprimary endpoints were changes in specific airway volume (siVaw) and resistance (siRaw) at functional residual capacity (FRC) and

total lung capacity (TLC) at 12 weeks. Imaging outcomes included mucus score/volume and air-trapping.

Results: At week 12, siVaw increased at FRC by 0.16 mL/L (27%; 95% CI 0.01% to 0.31%; p = 0.02) and at TLC by 0.14 mL/L (14%; 95% CI 0.03% to 0.25%; p = 0.02); siRaw at TLC decreased by -0.41 kPa·s/L (-24%; 95% CI -0.80% to -0.01%; p = 0.04). siRaw at FRC increased (2.99 kPa·s/L; 95% CI -4.57 to 10.54; p=0.42), with a significant relative change (293%; p=0.03) that lost significance after excluding outliers. siVaw at FRC increased early (week 4: 0.19 mL/L; 33%; 95% CI 0.03% to 0.34%; p = 0.01). At week 12, the mucus score decreased by 0.41 (95% CI -0.67 to -0.14; p<0.01), and air-trapping by 5.5% (95% CI -8.8 to -2.1; p < 0.01). Changes in siVaw and mucus correlated with improvements in forced expiratory volume in 1 s (r = 0.66 and -0.77; both p<0.01) and Saint George's Respiratory Questionnaire (mucus: r = 0.45; p = 0.05).

Conclusions: Benralizumab treatment in SEA was associated with early improvements in airway volume, resistance, mucus and air-trapping, correlating with better lung function and quality of life. These findings support FRI to monitor early treatment effects.

Trial registration number: NL-OMON26915.

Keywords: Asthma; Imaging/CT MRI etc; Pulmonary eosinophilia.

Conflict of interest statement

Competing interests: LC received personal honoraria for lectures from AstraZeneca, GSK and Sanofi. SOS reports unrelated grants from Roche, the Dutch Research Council (NWO) and the Dutch Lung Foundation (Longfonds), all paid to the institution. He has received consulting fees and honoraria for lectures and presentations from AstraZeneca, Chiesi and GlaxoSmithKline, as well as meeting support from AstraZeneca and Chiesi, all paid to the institution. FMEF reports personal fees for lectures and presentations from AstraZeneca, Chiesi, GSK, Sanofi and Pfizer, and received institutional support for attending meetings from AstraZeneca. BH received a research grant from AstraZeneca for the current study. MAS reports grants from Lung Foundation Netherlands, Stichting Astma Bestrijding, Boehringer Ingelheim, AstraZeneca, TEVA, GSK, Chiesi and Sanofi, and fees from Boehringer Ingelheim, AstraZeneca, TEVA and Chiesi, all outside the submitted work. All payments were made to MAS's employer. MAS is founder/owner of Care2Know B.V. QD reports no conflicts of interest.

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Pulm Ther

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. 2026 Feb 11.

doi: 10.1007/s41030-026-00342-5. Online ahead of print.

Asthma Awareness Questionnaire: Development, Psychometric Validation, and Extent

Irene Prediletto [1 2], Benedetta Bondi [3 4], Matteo Bonini [5], Giovanna Elisiana Carpagnano [6], Manuela Latorre [7], Eleonora Nucera [8], Francesca Puggioni [9 10], Giulia Scioscia [11 12], Pierachille Santus [13], Giovanni Sotgiu [14], Francesco Blasi [15 16], Giorgio Walter Canonica [9 10], Pierluigi Paggiaro [17], Arianna Aruanno [8], Diego Bagnasco [18 19], Francesca Cefaloni [20], Federico Di Marco [18 19], Gabriele Fontanili [1], Marcello Mincarini [18 19], Giovanni Paoletti [9 10], Dejan Radovanovic [13], Valentina Pinelli [7], Francesca Ricchiuto [18 19], Pasquale Tondo [11 12], Vitaliano Nicola Quaranta [6], Rachele Vallara [1], Fulvio Braido [# 18 19], Ilaria Baiardini [# 21]

Affiliations Expand

- PMID: 41670930

- DOI: 10.1007/s41030-026-00342-5

Free article

Abstract

Introduction: Patient awareness extends beyond factual knowledge, encompassing emotional and cognitive engagement with the disease. As in other chronic diseases, it plays a critical role in asthma management. A comprehensive, validated tool for assessing this multifaceted construct in patients with asthma has been lacking. This study aimed to develop and validate the Asthma Awareness Questionnaire (AAQ) within the framework of the Mild/Moderate Asthma Network of Italy (MANI) study, a real-world, prospective, longitudinal cohort study involving adults diagnosed with mild-to-moderate asthma according to Global Initiative for Asthma (GINA) 2020 criteria.

Methods: The questionnaire was developed through a Delphi process involving clinicians and patients. Psychometric properties (scale dimensions, internal validity, construct validity, and reliability) were explored, as well as the total and domain level of awareness.

Results: Starting from an initial list of 39 items, the Delphi process led to a provisional 22-item version. A total of 149 participants completed the AAQ at baseline and 6-month follow-up visit. Exploratory and confirmatory factor analyses supported a three-factor structure-agency, knowledge, and acceptance-with the exclusion of four items. Internal consistency (Cronbach's α = 0.78), construct validity (assessed through correlations with established patient-reported outcome measures), and test-retest reliability (ICC = 0.723) were assessed. Awareness levels were suboptimal overall (mean total score ≈ 60/100), with knowledge scores nearing the 80/100 threshold, while agency and acceptance lagged.

Conclusion: The AAQ is a psychometrically sound instrument that captures the multidimensional nature of asthma awareness. Its use may guide future interventions aimed at improving patient self-management. Further validation in broader clinical settings is warranted.

Trial registration: ClinicalTrials.gov identifier, NCT12345678.

Keywords: Asthma; Awareness; Patients' education; Questionnaire.

Conflict of interest statement

Declarations. Conflict of interest: Irene Prediletto has nothing to disclose, Benedetta Bondi has nothing to disclose, Matteo Bonini has nothing to disclose, Giovanna Elisiana Carpagnano has nothing to disclose, Manuela Latorre has nothing to disclose, Eleonora Nucera has nothing to disclose, Francesca Puggioni has nothing to disclose, Giulia Scioscia has nothing to disclose, Pierachille Santus has nothing to disclose, Giovanni Sotgiu has nothing to disclose, Francesco Blasi has nothing to disclose, Giorgio Walter Canonica has nothing to disclose, Pierluigi Paggiaro has nothing to disclose, Arianna Aruanno has nothing to disclose, Diego Bagnasco has nothing to disclose, Francesca Cefaloni has nothing to disclose, Federico Di Marco has nothing to disclose, Gabriele Fontanili has nothing to disclose, Marcello Mincarini has nothing to disclose, Giovanni Paoletti has nothing to disclose, Dejan Radovanovic has nothing to disclose, Valentina Pinelli has nothing to disclose, Francesca Ricchiuto has nothing to disclose, Pasquale Tondo has nothing to disclose, Vitaliano Nicola Quaranta has nothing to disclose, Rachele Vallara has nothing to disclose, Fulvio Braido has nothing to disclose, Ilaria Baiardini has nothing to disclose. Ethical Approval: This study was approved by the Ethics Committee of the Ospedale Policlinico IRCCS San Martino di Genova (N. Registro CER Liguria: 456/202068 DB id 10481 d-26/10/2020 -Delib Dir. Gen, Prot. N. 2060 11/11/2020) and performed in accordance with the Helsinki and Oviedo declarations [13, 14]. All eligible participants who freely agreed to enter the study provided written informed consent. The MANI protocol was registered at ClinicalTrials.gov under the identification number NCT04796844.

- **45 references**

Supplementary info

Associated dataExpand

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Curr Opin Pulm Med

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. 2026 Feb 11.

doi: 10.1097/MCP.0000000000001252. Online ahead of print.

Green inhalers: reducing the carbon footprint of asthma care

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Affiliations Expand

- PMID: 41670025

- DOI: 10.1097/MCP.0000000000001252

Abstract

Purpose of review: The respiratory community faces an urgent need to reduce the environmental impact of care as the wider climate crisis threatens to worsen airways disease worldwide. Inhalers contribute a disproportionate share of healthcare emissions because of the hydrofluorocarbon (HFC) propellants in pressurized metered-dose inhalers (pMDIs). We already have effective, low-carbon, per- and polyfluoroalkyl substances (non-PFAS) options; particularly dry-powder inhalers (DPIs). This review summarizes recent developments in propellant technology and evidence on optimizing asthma care to improve outcomes while lowering emissions.

Recent findings: Life-cycle studies confirm that pMDI emissions are dominated by propellant released during use, whereas DPIs have far lower footprints. New global warming potential (low-GWP) propellants are in advanced development, and the first inhaler using HFO-1234ze(E) has recently been licensed in the UK. Emerging clinical and prescribing data show that optimized therapy, particularly strategies that incorporate low-carbon inhalers, can reduce short-acting beta-agonist (SABA) over-reliance, exacerbations, and per-patient emissions. Guideline-driven, health-system approaches using prescribing data and formulary design can accelerate sustainable, evidence-based inhaler use.

Summary: The most immediate path to reducing inhaler-related emissions is to optimize asthma care while prioritizing low-carbon devices where appropriate. As

low-GWP pMDIs enter the market, careful planning will be needed to ensure reliable, affordable access to pMDIs is maintained or improved globally, particularly in low- and middle-income countries.

Keywords: asthma; carbon footprint; inhalers; propellants; sustainable prescribing.

- 32 references

Full text links

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Cite

9

BMC Pulm Med

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. 2026 Feb 10.

doi: 10.1186/s12890-026-04158-6. Online ahead of print.

Comparative efficacy of mepolizumab and benralizumab in severe eosinophilic asthma: a retrospective cohort study

Wei-Chun Huang [#1,2], Yi-Luen Shen [#3,4], Wen-Chien Cheng [5,6,7], Chien-Wen Huang [8,9], Chia-Hung Chen [1,2], Chih- Yen Tu [1,2], Wu-Huei Hsu [1,2]

Affiliations Expand

- PMID: 41668000

- DOI: 10.1186/s12890-026-04158-6

Free article

No abstract available

Keywords: Benralizumab; Clinical remission; Mepolizumab; Severe eosinophilic asthma.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The Institutional Review Board of China Medical University Hospital (CMUH112-REC1-175) approved this retrospective study in compliance with the ethical standards of the Declaration of

Helsinki. The requirement for individual patient consent was waived by the Ethics Review Board because of the retrospective study design. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 32 references

Full text links

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Cite

10

Randomized Controlled Trial

NPJ Prim Care Respir Med

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. 2026 Feb 10;36(1):12.

doi: 10.1038/s41533-025-00475-1.

A letter intervention to GPs practices to promoting prescription uptake in school-age children with asthma during summer holidays (TRAINS study): a pragmatic cluster randomised controlled trial

Rami A Alyami [1,2], Rebecca Simpson [3], Phillip Oliver [3], Ric Campbell [3], Steven A Julious [3]

Affiliations Expand

- PMID: 41667505
- PMCID: PMC12894922
- DOI: 10.1038/s41533-025-00475-1

Abstract

In school-aged children, asthma exacerbation rates peak following the return to school after the summer break. A cluster randomised controlled trial (PLEASANT) found that sending a reminder letter from a family doctor to parents of children with asthma during summer holiday led to a 30% increase in prescription collection in

August and a decrease in unscheduled care visits after school return in the period September to December. This intervention also resulted in an estimated cost saving of £36.07 per patient per year. We aimed to assess whether informing general practitioner (GP) practices about the PLEASANT trial and its results could lead to its adoption in routine practice. A pragmatic open label cluster randomised trial was conducted in England, involving GP practices contributing to the Clinical Practice Research Datalink (CPRD). All GP practices in CPRD were stratified by practice size (decile) and randomly allocated (1:1) to either the intervention or control group. In June 2021, the intervention group received a letter from CPRD via mail and email, informing them about the PLEASANT study findings and offering recommendations. The primary outcome was the proportion of children with asthma (aged 4-15) who collected a preventer prescription in August and September 2021. The trial received both University of Sheffield and Independent Scientific Advisory Committee (ISAC) Ethics approval and was registered with ClinicalTrials.gov (NCT05226091). This study included 1389 GP practices and total of 105,746 children with asthma. The practices were randomly assigned to either the intervention group (n = 693 practices, 52,166 individuals) or the control group (n = 695 practices, 53,580 individuals). Analysis showed that 15,716 children (35.3%) in the intervention group and 16,001 children (35.1%) in the control group collected a preventer prescription. No statistically significant difference was found between the two groups (OR 1.01, 95% CI 0.97-1.04), suggesting the intervention had no effect on prescription collection. The study results indicate that a passive intervention, consisting of providing a letter to GPs, did not yield the desired results. To effectively bridge the gap between evidence and practice, it may be worthwhile to consider exploring more proactive strategies to address the identified issues. The trial was registered under ClinicalTrials.gov ID: NCT05226091.

Conflict of interest statement

Competing interests: The authors declare no competing interests.

- 30 references
- 4 figures

Supplementary info

Publication types, MeSH terms, Substances, Associated data, Grants and fundingExpand

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. 2026 Feb 10.

doi: 10.1055/a-2787-2111. Online ahead of print.

Near-Fatal Asthma Due to Severe Airway Mucus Plugging in a 12-Year-Old Boy

Wanda Naumann [1 2 3], Dominik Leitz [1 2 3 4], Mirjam Völler [1 2 3 4], Vladimir Skrypnikov [5], Martin Ruß [5], Björn Weiß [5], Viktoria Martiny [1 2 3], Stefanie Hort [1 2 3], Anke Wendt [1 2 3], Susanne Lau [1 2 3], Alexander Gratopp [1 2 3], Marcus Alexander Mall [1 2 3]

Affiliations Expand

- PMID: 41667078

- DOI: 10.1055/a-2787-2111

No abstract available

Conflict of interest statement

Dr. D. Leitz und Dr. M. Völler are participants in the BIH Charité Clinician Scientist Program funded by the Deutsches Zentrum für Kinder- und Jugendgesundheit (DZKJ). The remaining authors declare that they have no conflict of interest.

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Curr Opin Pulm Med

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. 2026 Feb 10.

doi: 10.1097/MCP.0000000000001254. Online ahead of print.

Corticosteroid stewardship in asthma: from individual prescribers to system-level change

Vincent Gallub [1], Linda Rogers, Boram Kim

Affiliations Expand

- **PMID: 41664503**

- **DOI: 10.1097/MCP.0000000000001254**

Abstract

Purpose of review: In this review, we discuss the under-recognition of harms associated with corticosteroid overuse in asthma and highlight the concept of corticosteroid stewardship as an approach to address these harms.

Recent findings: Adverse health effects of chronic systemic steroids to treat asthma are well known in the medical community. There is less familiarity with recent data showing similar harms from repeated short courses of systemic corticosteroids (SCS) to treat asthma flares and long-term use of high dose inhaled corticosteroids (ICS). In this review, we summarize recent advances in our knowledge of adverse effects of corticosteroid overuse in asthma, highlight recent calls for corticosteroids stewardship in asthma care, and describe effective systems-based strategies used to reduce corticosteroid overuse in asthma.

Summary: Those involved in primary care, acute care, and specialty care of asthma may use this review for an updated understanding of corticosteroid associated harms, and as a guide to both individual practitioner and health systems-based approaches to corticosteroid stewardship.

Keywords: asthma treatment; corticosteroid stewardship; corticosteroids side effects.

- **45 references**

Full text links

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Curr Opin Pulm Med

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. 2026 Feb 10.

doi: 10.1097/MCP.0000000000001249. Online ahead of print.

GLP-1 receptor agonists in asthma: targeting metabolic-inflammatory crossroads

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Affiliations Expand

- PMID: 41664500

- DOI: 10.1097/MCP.0000000000001249

Abstract

Purpose of review: The application of GLP-1 receptor agonists as metabolic modulators is one the most exciting and advancing areas in medicine today. Early studies suggest a positive signal in asthma care in both obese and nonobese patients highlighting their multimodal utility across multiple disease phenotypes.

Recent findings: Asthmatic patients living with obesity are more likely to experience poor disease control, higher exacerbation rates and poor response to conventional asthma therapies. While weight loss interventions have repeatedly shown benefits in these patients, recent studies demonstrate that modulating insulin resistance may lead to improvement of asthma control, independent of weight. Recent translational/mechanistic/observational studies and meta-analyses provide a basis for pursuing GLP1RAs as putative asthma add-on therapies. This represents a novel area of treatment at the overlap between the inflammatory and metabolic nexus, potentially leading to better outcomes in uncontrolled asthma.

Summary: GLP-1RAs are receiving attention as potentially exciting therapies for treatment of asthma patients with comorbid obesity and/or diabetes mellitus; however, the exact mechanisms underpinning their utility in these cohorts are poorly understood. Further randomised controlled and pragmatic trials are needed to define their potential benefits/harms, mechanisms of action and where GLP1RAs might fit into existing treatment pathways for uncontrolled asthma.

Keywords: GLP1-RAs; airway inflammation; metabolic dysregulation; obesity.

- 76 references

Full text links

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BMJ Paediatr Open

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. 2026 Feb 9;10(1):e004105.

doi: 10.1136/bmjpo-2025-004105.

Improving management of acute asthma in children through an integrated care pathway

Marta Montejo [1 2], Natalia Paniagua [2 3 4], Jose Ignacio Pijoan [2 5], Carlos Saiz-Hernando [2 6], Susana Castelo [4 7], Vanesa Martin [4 7], Alvaro Sanchez [2 8], Mikel Rueda-Etxebarria [2 9], Javier Benito [10 3 4]

Affiliations Expand

- PMID: 41663148
- PMCID: PMC12887489
- DOI: 10.1136/bmjpo-2025-004105

Abstract

Objective: To evaluate the impact of an asthma integrated care pathway (AICP) on adherence to evidence-based practices in the management of paediatric acute asthma (AA) across primary care (PC) and paediatric emergency department (PED) settings.

Methods: We conducted a 2-year quality improvement initiative (May 2023-April 2025) in two health districts and a regional PED in Spain. The AICP was developed using a design-thinking approach and included input from families and clinicians. Interventions included training, electronic decision support, family education and regular audit and feedback. The primary outcome was the proportion of AA cases treated with bronchodilator via metered-dose inhaler (MDI) with holding chamber. Secondary outcomes included documentation of severity (Pulmonary Score) and symptom control assessment (Paediatric Asthma Control Tool). Interrupted time series analyses (ITSA) were carried out.

Results: A total of 7241 AA episodes were recorded (4150 PED, 3091 PC). MDI with holding chamber use increased from 9.0% to 26.7% in PC and from 31.5% to 61.4% in PED. Pulmonary Score documentation improved from 16.3% to 45.1% in PC and from 48.4% to 78.7% in PED. Persistent symptom assessment increased from 8.0% to 23.4% and from 32.9% to 67.4% in the PC centres and the PED, respectively. ITSA showed differential patterns of change between PC and PED. No changes were observed in PED length of stay, hospitalisation or revisit rates.

Conclusions: Implementation of a structured, codesigned AICP significantly improved adherence to recommended asthma care practices. Integrated pathways can effectively bridge the gap between guidelines and practice in paediatric asthma care.

Keywords: Child Health; Epidemiology.

Conflict of interest statement

Competing interests: None declared.

- **40 references**
- **6 figures**

Supplementary info

MeSH terms, SubstancesExpand

Full text links

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Cite

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Arthritis Rheumatol

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. 2026 Feb 8.

doi: 10.1002/art.70072. Online ahead of print.

Prediction of Relapse and Glucocorticoid Dependence in Eosinophilic Granulomatosis with Polyangiitis: Findings from a Large European Cohort

Matthias Papo [1], Pauline Martinot [2], Renato A Sinico [3], Vítor Silvestre-Teixeira [4 5], Nils Venhoff [6], Maria-Letizia Urban [7], Michele Iudici [1], Juliane Mahrhold [8], Francesco Locatelli [9], Giulia Cassone [10], Franco Schiavon [11], Benjamin Seeliger [12], Thomas Neumann [13 14], Claudia Feder [15], Matthieu Groh [16], Chiara Marvisi [17], Maxime Samson [18], Thomas Barba [19], David Jayne [4], Arianna Troilo [6], Jens Thiel [6], Bernhard Hellmich [8], Sara Monti [9], Carlomaurizio Montecucco [20], Carlo Salvarani [21], Jean-Emmanuel Kahn [16], Bernard Bonnotte [18], Cécile-Audrey Durel [22], Xavier Puéchal [1], Luc Mouthon [1], Loïc Guillevin [1], Giacomo Emmi [23 24], Augusto Vaglio [25 26], Raphaël Porcher [2], Benjamin Terrier [1 27]; French Vasculitis Study Group and the EGPA European Study Group

Affiliations Expand

- **PMID: 41656627**

- DOI: 10.1002/art.70072

Abstract

Background: Eosinophilic granulomatosis with polyangiitis (EGPA) is a small vessel vasculitis characterized by eosinophilia, asthma, and ear, nose, throat (ENT) involvement. Although glucocorticoids (GCs) are effective in controlling symptoms, relapses and GC dependence are common. The aim of this study was to develop predictive models for vasculitis relapse and GC-dependent asthma and/or ENT symptoms.

Methods: This multicenter European retrospective cohort study included EGPA patients fulfilling the 2022 ACR/EULAR criteria. Using the PMSAMPSIZE algorithm, we developed two multivariable prediction models: one for vasculitis relapse and another for GC-dependent asthma and/or ENT symptoms at 2 years. Internal validation was performed using bootstrapping.

Results: A total of 809 patients were followed for a median of 72 months (interquartile range, IQR 37-115). Vasculitis relapse occurred in 228 patients with a 12-year cumulative incidence of 41.2% (95% CI 36.3-46.8). GC-dependent asthma and/or ENT symptoms were observed in 66.4% at 2 years. Predictors of vasculitis relapse included age (nonlinear), GC-dependent asthma before EGPA diagnosis (hazard ratio, HR 1.57), arthralgia (HR 1.27), myocarditis (HR 1.74), peripheral neuropathy (HR 1.39), MPO-ANCA (HR 1.56), and baseline eosinophil count (nonlinear). Predictors of GC-dependent asthma and/or ENT symptoms included older age (odds ratio, OR 0.98 per year), GC-dependent asthma at diagnosis (OR 1.50), chronic sinusitis (OR 1.78), and baseline eosinophil count (OR 0.70 per 10^9/L).

Conclusion: Using a large EGPA cohort, we developed predictive models for vasculitis relapse and GC-dependent asthma and/or ENT symptoms. These tools may help guide treatment decisions. Prospective external validation in the current therapeutic era is warranted.

. 2026 Feb 8.

doi: 10.1111/cea.70230. Online ahead of print.

Identifying an At-Risk Asthma Phenotype: Allergy and Recurrent Infections Predict Severe Disease

Emilie Johanning Bari [1], Susanne Hansen [1 2], Patrik Sandin [3], Olivia Ernstsson [3 4], Kirk Geale [3], Apostolos Bossios [5 6], Lauri Lehtimäki [7 8], Christer Janson [9], Charlotte Ulrik [10], Hannu Kankaanranta [8 11 12], Bernt Bøgvald Aarli [13 14], Anna Von Bülow [1], Arja Viinanen [15 16], Asger Sverrild [1 17], Dóra Lúdvíksdóttir [18], Helena Backman [19], Johannes Martin Schmid [20], Jussi Karjalainen [7 8], Leif Bjermer [21], Maritta Kilpeläinen [15 16], Ole Hilberg [22], Paula Kauppi [23], Sverre Lehmann [13 14], Thomas Sandström [24], Tina Skjold [20], Unnur Steina Björnsdóttir [25], Valentyna Yasinska [5 26], Vibeke Backer [27], Alan Altraja [28], Celeste Porsbjerg [1]

Affiliations Expand

- PMID: 41656006

- DOI: 10.1111/cea.70230

Abstract

Background: Asthma severity is influenced by complex immunologic and environmental factors. While allergic asthma is linked to increased susceptibility to respiratory infections, the combined role of allergy and antibiotic-treated infections in progression to severe asthma has not been fully evaluated.

Objective: To evaluate whether allergic asthma and recurrent respiratory infections (RRI) requiring antibiotics are associated with increased risk of developing severe asthma.

Methods: We conducted a registry-based cohort study using Swedish national registry data. Adults with mild-to-moderate asthma were identified in 2014 (baseline) based on prescription records and absence of severe disease indicators. During a two-year exposure window (2015-2016), RRI was defined as ≥ 2 antibiotic prescriptions for lower respiratory tract infections. The outcome was development of severe asthma during 2017-2019, based on ERS/ATS treatment criteria. Allergic asthma was defined by ≥ 2 prescriptions for anti-allergic medications at baseline.

Results: Among 113,393 patients, 24,692 (21.8%) had allergic asthma. RRI occurred more frequently in allergic versus non-allergic asthma (7.5% vs. 5.9%, p < 0.001). A total of 869 patients (0.77%) developed severe asthma. Incidence was higher in those with RRI and highest among patients with both allergic asthma and RRI (2.0%), corresponding to a relative risk of 3.47 (95% CI: 2.49-4.83) versus patients with neither exposure. Results were consistent after adjustment for age, sex and comorbidities.

Conclusion: Allergic asthma and antibiotic-treated respiratory infections were independent and additive predictors of severe asthma progression. These findings

support a clinically actionable risk profile and may inform targeted preventive strategies in asthma management.

Keywords: allergic asthma; at-risk asthma; epidemiology; infections; registry data; severe asthma.

- **41 references**

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

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J Allergy Clin Immunol Pract
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. 2026 Feb 11:S2213-2198(26)00137-6.
doi: 10.1016/j.jaip.2026.02.005. Online ahead of print.

Pharmacokinetics and pharmacodynamics following repeat dosing of neffy (epinephrine nasal spray) versus intramuscular injection during induced allergic rhinitis

John Oppenheimer [1], Thomas B Casale [2], Jonathan M Spergel [3], David I Bernstein [4], Carlos A Camargo Jr [5], Anne K Ellis [6], David M Fleischer [7], Richard Lowenthal [8], Sarina Tanimoto [9]
Affiliations Expand

- **PMID: 41687867**
- **DOI: 10.1016/j.jaip.2026.02.005**

Abstract
Background: Neffy (epinephrine nasal spray) is the first needle-free option for the treatment of severe allergic reactions. Seasonal allergic rhinitis (SAR) with nasal obstruction may alter intranasal drug absorption, but its impact on nasal epinephrine is unclear.
Objective: To compare pharmacokinetics (PK) and pharmacodynamics (PD) of repeated neffy dosing with intramuscular (IM) epinephrine under normal nasal conditions and following nasal allergen challenge (NAC)-induced allergic rhinitis, and to assess the effect of repeat-dose laterality METHODS: This was a Phase 1, open-label, randomized, crossover study in 43 adults with SAR. Subjects underwent two treatment periods under normal conditions (neffy 2.0 mg + 2.0 mg; IM 0.3 mg + 0.3 mg) and three periods after NAC. Under NAC, neffy was given to the same nostril (R/R) or opposite nostrils (R/L); IM was administered to contralateral thighs. Doses were separated by 10 minutes. Epinephrine concentrations, blood pressure, and heart rate were measured up to 240 minutes. Adverse events (AEs) were recorded RESULTS: Across normal and NAC conditions, neffy resulted in a higher or comparable C_{max}, greater early (≤60-minute) partial AUCs, and a faster T_{max} versus IM. Under NAC, neffy R/R resulted in the highest sustained epinephrine exposure and PD responses, whereas neffy R/L was generally comparable to IM. All AEs were mild; no serious AEs occurred.

Conclusion: Repeated dosing of neffy, including during NAC-induced allergic rhinitis, yields PK/PD profiles comparable or greater to IM epinephrine, supports same-nostril repeat dosing, and provides a well-tolerated, needle-free option for patients who may require a second dose.

Keywords: allergic rhinitis; anaphylaxis; epinephrine; intranasal; nasal obstruction; needle-free delivery; neffy; pharmacodynamics; pharmacokinetics; repeat dosing.

Full text links

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Cite

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J Investig Allergol Clin Immunol

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Precision Medicine in Allergic Rhinitis and Conjunctivitis: Integrative Molecular Mapping of the Allergic Exposome in Spain (EXPOMOL Study)

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Abstract

Introduction: Exposomic determinants substantially influence the variability of molecular IgE-mediated sensitization in allergic rhinitis and conjunctivitis across bioclimatic regions, underscoring their relevance in precision allergology. This study aimed to characterize molecular sensitization profiles in Spanish patients with respiratory allergy from distinct geographic and climatic areas.

Methods: A cross-sectional, multicenter study was performed in 12 Spanish cities. The study population comprised 291 patients diagnosed with allergic rhinitis and/or conjunctivitis according to the modified ARIA/DECA criteria. Participants underwent skin prick testing with standardized allergen extracts and multiplex molecular IgE analysis. Clinical, demographic, and regional bioclimatic variables were integrated to define exposomic sensitization patterns. Patients previously treated with allergen immunotherapy or biologics were excluded. Regional pooled sera were analyzed by ELISA and IgE immunoblotting to validate molecular data and identify IgE binding to nonrecombinant or poorly characterized allergenic components.

Results: Distinct regional sensitization profiles were identified. Grass pollen allergens predominated in oceanic and continental climates, while olive and cypress pollens were more frequent in Mediterranean areas. Sensitization to house dust

mite, particularly Dermatophagoides pteronyssinus and Blomia tropicalis, was highly prevalent in subtropical and humid zones. Molecular assays confirmed skin test findings and identified major allergenic molecules, including Phl p 1, Ole e 1, Der p 1, and Der p 2, along with region-specific components such as Der p 23, Cup a 1, Alt a 1, and Pla a 2.
Conclusions: This multicenter exposomic study demonstrated that climatic diversity modulates allergen sensitization in Spain, supporting region-tailored precision diagnostic and therapeutic strategies in respiratory allergy.
Keywords: Aerobiology; Allergens; Allergic conjunctivitis; Allergic rhinitis; Climate change; Exposome.

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J Comp Eff Res
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Treatment burden and healthcare resource utilization in patients with chronic rhinosinusitis with nasal polyps who did or did not undergo functional endoscopic sinus surgery: a US real-world retrospective cohort study

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Free article
Abstract
Aim: To compare oral corticosteroid (OCS) burden and healthcare resource utilization (HCRU) in patients with chronic rhinosinusitis with nasal polyps undergoing functional endoscopic sinus surgery (FESS; intervention) versus not undergoing FESS. Materials & methods: Retrospective cohort study using US claims data (Optum's de-identified Clinformatics® Data Mart Database; 2011-2021). Groups were propensity score (PS) matched to adjust for confounding. OCS burden (cumulative dose in mg prednisone equivalents) and HCRU were assessed during baseline (365 days pre-index), intervention (days 0-44), and follow-up (days 45-365); costs during intervention and follow-up. Results: Before PS-matching, both groups had substantial comorbidity burden (>50% allergic rhinitis; >25% asthma) and over half of patients had used OCS (65% [FESS] vs 52% [non-FESS]; p < 0.01). After PS-matching (n = 8909 per group), OCS cumulative dose during follow-up was 18% lower among FESS versus non-FESS patients (mean difference: -40 mg per patient [95% CI: -57, -23; p < 0.01]). Similar proportions of patients filled OCS prescriptions during follow-up (35% [FESS], 36% [non-FESS]) and in these patients, OCS burden remained high (mean [SD] cumulative dose 521 [786] vs 612 [906] mg, respectively). Mean total healthcare costs per patient during the intervention period were $28,832 (FESS) and $2537 (non-FESS), but similar during follow-up ($15,659 and $15,926,

respectively). HCRU was similar in follow-up, except more FESS patients visited an otolaryngologist (57% vs 32%, p < 0.01). Conclusion: In US clinical practice, OCS burden in patients with chronic rhinosinusitis with nasal polyps was significantly lower but remained substantial following FESS, and HCRU and costs during follow-up were similar to matched patients without FESS.

Keywords: chronic rhinosinusitis with nasal polyps; epidemiology; functional endoscopic sinus surgery; oral corticosteroids; quality-of-life; rhinitis; sinusitis.

Plain language summary

What was the aim of this research? To compare the burden of medications, visits, procedures and costs between patients with chronic rhinosinusitis with nasal polyps who did nor did not undergo polyp removal surgery. How was the research carried out? Anonymized administrative health-claim data were analyzed through the year before and up to 3 years after surgery. To allow for a fair comparison between patients who did and did not have surgery, patients were matched according to a range of factors including age, gender, race and prior use of medications. What were the results? Between 45 and 365 days after surgery, patients had an 18% lower average cumulative dose of oral corticosteroids (OCS) compared with patients who did not have surgery. The proportion of patients with prescriptions for OCS was similar between the surgery and nonsurgery groups (35% and 36%, respectively). Similarly, there was little difference in the use of other medications. Otolaryngologist visits were more common for patients who had surgery than those who did not. Costs were similar after surgery between the surgery and no-surgery groups through 3 years of follow-up. What do the results of the study mean? This study found that OCS use was lower over the 3 years after sinus surgery but remained substantial for both the surgery and nonsurgery patient groups. Further, surgery only marginally reduced costs during the follow-up period. These results serve as evidence for policymakers and healthcare providers when deciding the most cost-effective way to treat patients with chronic rhinosinusitis with nasal polyps.

Cite

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Sci Rep

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. 2026 Feb 10.

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Associations of chronic rhinosinusitis and allergic rhinitis with tinnitus

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Affiliations Expand

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- DOI: 10.1038/s41598-026-39016-2

Free article

Abstract

Previous studies have suggested a potential association between deviation of the nasal septum and ear-related symptoms, such as tinnitus. The present study aims

to assess the relationships between tinnitus and previous episodes of allergic rhinitis (AR) and chronic rhinosinusitis (CRS) through the use of a nationwide cohort. The research comprised 138,361 patients with tinnitus and 384,895 controls matched on their propensity scores. The baseline clinical and sociodemographic features of both tinnitus patients and the controls were examined utilizing standardized differences. Separate multiple logistic regression models were created to assess the relationship between AR, CRS, and the likelihood of developing tinnitus. Our primary analysis revealed significant differences in the prevalence of pre-existing AR (31.66% vs. 19.64%, p < 0.001), CRS (3.83% vs. 2.15%, p < 0.001), and both (2.51% vs. 1.28%, p < 0.001) between tinnitus patients and controls. Furthermore, tinnitus was significantly associated with pre-existing AR (OR = 1.813, 95% CI:1.787 ~ 1.840), CRS (OR = 1.626, 95% CI:1.569 ~ 1.686), and both (OR = 1.751, 95% CI:1.674 ~ 1.831) after adjusting for sociodemographic traits and medical conditions including hyperlipidemia, diabetes, hearing loss, obesity, anemia, alcohol abuse, tobacco use disorder, anxiety disorder, depressive disorder, asthma and otitis media. This large, population-based study demonstrates a significant association between AR, CRS, and tinnitus, with the highest risk observed in patients affected by both conditions. Early identification and treatment of AR and CRS may help reduce tinnitus risk and improve overall quality of life.
Keywords: Allergic rhinitis; Chronic rhinosinusitis; Epidemiology; Tinnitus.

Conflict of interest statement
Declarations. Competing interests: The authors declare no competing interests.

- 33 references

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

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Clin Infect Dis

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Overview of 2025 Clinical Practice Guideline Update by the Infectious Diseases Society of America on Group A Streptococcal (GAS) Pharyngitis: Risk assessment using clinical scoring systems in children and adults

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- DOI: 10.1093/cid/ciag098

Abstract

This publication represents the first part of an update to the clinical practice guideline on the diagnosis and management of group A streptococcal (GAS) pharyngitis, developed by the Infectious Diseases Society of America (IDSA). Diagnosis of GAS pharyngitis by clinician judgement alone is unreliable, and universal testing incurs cost and inconvenience for individuals at low risk of having GAS infection. Clinical scoring systems have been used to quantify the probability of a positive GAS throat culture based on standardized criteria such as the presence of fever; tonsillar enlargement or exudate; tender and enlarged anterior cervical lymph nodes; and the absence of cough. The goal of this manuscript is to review the evidence and provide a recommendation as to whether a scoring system should be used to decide which patients should have a GAS diagnostic test (i.e., rapid antigen test (RADT), molecular method, and/or throat culture) performed. We performed a systematic review of randomized and non-randomized studies that compared the use of a clinical scoring system to clinician judgement alone in predicting the result of a throat culture. Evidence from studies in children and adults suggests the diagnostic accuracy is comparable or slightly higher using a scoring system compared to clinician judgement alone. Although the studies are limited due to small size, lack of uniformity in outcome measures, and incomplete data, the consensus of the panel is that the balance of benefits and harms favors incorporation of a clinical scoring system as part of the evaluation of patients with sore throat and suspected GAS pharyngitis.

Keywords: Streptococcus pyogenes; strep pharyngitis; Group A streptococcal pharyngitis; clinical scoring system; risk assessment.

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Vocal Cord Dysfunction / Inducible Laryngeal Obstruction (VCD/ILO) as a mimic of anaphylaxis: A retrospective cohort study

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- PMID: 41687869

- DOI: 10.1016/j.jaip.2026.02.006

Abstract

Background: Vocal cord dysfunction (VCD), or inducible laryngeal obstruction (ILO), is an episodic upper airway disorder that can mimic anaphylaxis.

Objective: To determine the prevalence of VCD/ILO among adults referred to allergy clinic for suspected anaphylaxis and to identify clinical markers that distinguish VCD/ILO from anaphylaxis.

Methods: We conducted a retrospective study of adults referred for suspected anaphylaxis to a tertiary allergy clinic in Newcastle, Australia, in 2023. Patients were classified as confirmed VCD/ILO (laryngoscopy-proven), suspected VCD/ILO (spirometry findings or high clinical suspicion after exclusion of alternate diagnoses), anaphylaxis, or other. Demographics, triggers, comorbidities, clinical features, investigations, and healthcare utilisation were compared between laryngoscopy-confirmed VCD/ILO and anaphylaxis.

Results: Among 133 adults, 11 (8.3%) had laryngoscopy-confirmed VCD/ILO. Inclusion of suspected cases (n = 21, 15.8%) increased prevalence of VCD/ILO to 24.1% (n = 32). Compared with anaphylaxis, VCD/ILO was characterised by predominant upper airway symptoms, including throat tightness (100% vs 53.8%, p = 0.004), stridor (36.4% vs 1.9%, p = 0.003), dysphonia (72.7% vs 17.3%, p < 0.001), and cough (54.5% vs 1.9%, p < 0.001) with fewer systemic symptoms (urticaria 18.2% vs 84.6%, p < 0.001; gastrointestinal 9.1% vs 44.2%, p = 0.04; cardiovascular 0% vs 55.8%, p < 0.01). Multiple triggers were more common in VCD/ILO (72.7% vs 1.9%, p < 0.001), particularly aerosolised chemicals (36.4% vs 0%, p < 0.001). IgE sensitisation to the proposed trigger was uncommon (9.1% vs 63.5%, p < 0.008) in VCD/ILO.

Conclusion: VCD/ILO is a frequent differential diagnosis in adults referred for anaphylaxis. Recognition of its characteristic clinical features and trigger profiles may prevent misdiagnosis, reduce healthcare utilisation, and improve patient outcomes.

Keywords: anaphylaxis; anaphylaxis mimic; functional airway disorder; inducible laryngeal obstruction; paradoxical vocal fold motion; upper airway obstruction; vocal cord dysfunction.

Cite

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Semin Respir Crit Care Med

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. 2026 Feb 12.

doi: 10.1055/a-2811-3019. Online ahead of print.

PHYSIOPATHOLOGY OF EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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- **PMID: 41679730**

- **DOI: 10.1055/a-2811-3019**

Abstract

Acute exacerbations of chronic obstructive pulmonary disease (ECOPD) represent crucial events in the natural history of the disease. These are mainly characterized by abrupt worsening of respiratory symptoms, i.e. dyspnea, cough, sputum production. Defined by GOLD initiative as acute symptom deterioration requiring additional therapy, ECOPD markedly worsen lung function and strong clinical outcomes of any patient involved. Pathobiology is multidimensional, arising from inflammatory, mechanical, and cardiovascular perturbations that are linked each other and are likely to generate a self-reinforcing cycle of respiratory derangement and/or failure. Indeed, lung inflammation and injuries intensify airflow limitation, which in turn promotes air trapping and dynamic hyperinflation, increases elastic loads, and predisposes to respiratory muscle dysfunction. The resulting alterations of the blood gases may lead to even severe respiratory system failure and to a increased risk of dead.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Full text links

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Diabetes Metab

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. 2026 Feb 10:101739.

doi: 10.1016/j.diabet.2026.101739. Online ahead of print.

Silent reflux underlying GLP-1RA-associated chronic cough

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- PMID: 41679597

- DOI: 10.1016/j.diabet.2026.101739

No abstract available

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.

Supplementary info

Publication typesExpand

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Cite

5

Expert Rev Anti Infect Ther

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. 2026 Feb 12.

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Post-tuberculosis lung disease and pulmonary aspergillosis management: challenges and considerations

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Affiliations Expand

- PMID: 41674445

- DOI: 10.1080/14787210.2026.2631525

Abstract

Introduction: Post-tuberculosis lung abnormality (PTLA) affects over 50-140 million TB survivors globally, creating a highly permissive environment for secondary fungal disease, particularly chronic pulmonary aspergillosis (CPA). CPA is now recognized as the most frequent and clinically significant *Aspergillus*-related complication of PTLA, contributing substantially to respiratory morbidity, misdiagnosis as TB relapse, and excess mortality in high TB-burden regions. Despite this, CPA remains largely absent from post-TB care pathways.

Areas covered: This review synthesizes current evidence on CPA complicating PTLA, including epidemiology, pathogenesis, diagnosis, and management. Key findings include CPA prevalence of 7-23% in TB survivors, diagnostic utility of automated *A. fumigatus*-IgG assays, and characteristic chest CT-features. Randomized trials demonstrate the superiority of 12-month itraconazole, comparative efficacy of itraconazole and voriconazole, and the emerging role of posaconazole, isavuconazole, and nebulized amphotericin B are summarized. Field- and hospital-based diagnostic algorithms, refined treatment response criteria, and gaps in biomarker monitoring are addressed.

Expert opinion: CPA remains severely underdiagnosed due to overlapping features with TB, limited diagnostic access, and absence from national TB programs. Integrating CPA diagnostic bundles into national TB programs, standardizing serologic thresholds, ensuring antifungal stewardship, and developing validated composite response criteria are essential to improving outcomes in PTLA populations.

Keywords: Aspergillosis; CPA; PTLD; TOPD; aspergilloma; bronchiectasis; pulmonary tuberculosis.

Plain language summary

Many people who recover from pulmonary tuberculosis (PTB) are left with long-term lung damage, and this damaged lung tissue can easily get infected by fungi, especially *Aspergillus* species, most commonly *Aspergillus fumigatus*. Chronic pulmonary aspergillosis (CPA) is the most common and serious fungal lung infection seen in people with old TB-related lung damage. Between 7% and 23% of TB survivors with lung damage may develop CPA, meaning millions of people worldwide are affected. CPA symptoms look very similar to TB symptoms, such as cough, weight loss, and blood in sputum. Because of this overlap, many people are wrongly treated again for TB instead of receiving antifungal treatment. A simple blood test that measures antibodies against *Aspergillus* is currently the best way to diagnose CPA. Adding tests for *A. flavus* can improve accuracy. Chest CT scans are extremely important because they clearly show cavities and fungal balls that help confirm the diagnosis. Treatment with the antifungal drug itraconazole for 12 months is more effective than shorter treatment, helping prevent relapse. Itraconazole and voriconazole work equally well, but itraconazole causes fewer side effects, making it the preferred initial treatment.In some cases, inhaled (nebulized) amphotericin B can help maintain improvement, especially in those with extensive disease despite treatment with oral azoles.Including CPA testing in national TB programs, improving access to blood tests, and training healthcare workers are essential steps to prevent missed diagnoses and improve patient outcomes.

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Respir Investig

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The prevalence of patients who mistakenly referred to upper respiratory tract secretions as sputum

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- **PMID: 41666652**

- **DOI: 10.1016/j.resinv.2026.101378**

Abstract

Background: Patients sometimes misidentify upper respiratory tract secretions or saliva as "sputum." The objective of this study was to investigate the prevalence of such misidentification and its clinical associations.

Methods: We conducted a cross-sectional study of adults with cough and/or sputum symptoms, examining how often patients referred to upper respiratory tract secretions or saliva as "sputum," and explored related clinical features.

Results: Of 72 patients with sputum symptoms, 32% and 13% referred to upper respiratory tract secretions and saliva, respectively, as "sputum." Patients who misidentified upper respiratory secretions more often reported post-nasal drip (41.2% vs. 6.1%) and rhinitis (64.7% vs. 26.5%) than those who did not, which remained significant after adjustment for covariates ($p < 0.05$). Saliva misidentification was more common in older patients ($p = 0.03$).

Conclusions: 32% of the patients with sputum production referred to upper respiratory tract secretions as "sputum," highlighting a potential source of miscommunication in clinical practice.

Keywords: Cough; Cough triggers; Post nasal drip; Secretions; Sputum.

Conflict of interest statement

Declaration of competing interest T.I. serves as a consultant to AstraZeneca. Y.T. received honoraria for lecture fees from Kyōrin Pharmaceutical Co., Ltd., AstraZeneca plc, and GlaxoSmithKline K.K. Othe authors have no conflicts of interest to declare.

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Gefapixant Citrate, a Selective P2X3 Receptor Antagonist, May Improve Cancer-Related Hypergeusia: A Case Report

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- PMID: 41056094

- DOI: 10.1177/10966218251385732

Abstract

Patients with cancer frequently experience taste disorders that substantially affect their quality of life. Gefapixant citrate, a P2X purinoceptor 3 receptor antagonist, is an antitussive agent known to cause taste-related adverse effects. In this study, we report the clinical course of a patient with cancer who was administered gefapixant citrate for refractory cough, which improved preexisting hypergeusia. The patient was an 85-year-old woman with lung cancer and malignant pleurisy who experienced hypergeusia and hypergeusia-induced loss of appetite. After aggressive cancer treatments were discontinued, gefapixant citrate was administered to treat her refractory cough. The patient reported improvement in hypergeusia and oral intake, which was maintained for 3 weeks. Gefapixant citrate may improve hypergeusia and sustain oral intake in patients with refractory cough, suggesting its potential use in the management of hypergeusia. However, caution is required owing to its limited efficacy in treating cancer cachexia and possible taste-related adverse effects.

Keywords: P2X3 receptor antagonist; cancer cachexia; gefapixant citrate; hypergeusia; taste disorders.

Full text links

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

1

BMC Pulm Med

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Comparison of chest CT-derived muscle mass and body mass index in assessing disease severity and outcomes in non-cystic fibrosis bronchiectasis

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Affiliations Expand

- PMID: 41691187

- DOI: 10.1186/s12890-026-04137-x

Free article

No abstract available

Keywords: Body mass index; Bronchiectasis; CT-derived muscle mass; Sarcopenia.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Approval of the study was granted by the respective Research Ethics Committees of Far Eastern Memorial Hospital (FEMH-111015-E and FEMH-112129-E). The study was conducted in accordance with the Declaration of Helsinki. Informed consent was waived because it was a retrospective study, and the data were delinked from personal information. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 37 references

Supplementary info

Grants and fundingExpand

Full text links

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Thorax

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Clinical, molecular and microbial characterisation of the eosinophilic endotype of bronchiectasis: data from the EMBARC-BRIDGE study

Jennifer Pollock [1], Jeffrey T J Huang [1], Morven Shuttleworth [1], Merete B Long [1], Hollian Richardson [1], Daniela Alferes de Lima [1], Elena Kuzmanova [1], Clare Clarke [1], Michal Shteinberg [2 3], Stefano Aliberti [4 5], Charles Haworth [6], Sanjay Haresh Chotirmall [7 8], Eva Polverino [9], Pieter C Goeminne [10], Michael Loebinger [11 12], Natalie Lorent [13 14], Felix C Ringshausen [15], Oriol Sibila [16], Eva Rodriguez-Suarez [17], Christopher McCrae [18], Amelia Shoemark [1], James Chalmers [19 20]

Affiliations Expand

- PMID: 41690778

- DOI: 10.1136/thorax-2025-223305

Abstract

Objectives: Eosinophilic bronchiectasis is defined by a blood eosinophil count (BEC) ≥300 cells/µL, but blood eosinophils imperfectly reflect airway eosinophilic inflammation. Here, we investigated the relationship between eosinophilic airway inflammation, blood eosinophils and clinical severity in bronchiectasis and explored the phenotype associated with eosinophilic bronchiectasis.

Methods: Sputum from 180 patients with stable CT-confirmed bronchiectasis was utilised to investigate airway levels of eosinophil proteins (eosinophil peroxidase (EPX), eosinophil derived-neurotoxin (EDN), eosinophil cationic protein (ECP), major basic protein (MBP) and Galectin-10 (Gal-10)) using a novel stable isotope dilution liquid chromatography-tandem mass spectrometry (LC-MS/MS) assay. To profile eosinophilic bronchiectasis, a nested analysis of patients with BEC <150 cells/µL (n=52) and ≥300 cells/µL (n=49) was conducted.

Results: Sputum concentrations of Gal-10, ECP and EDN were weakly but significantly associated with radiological severity, FEV_1 and sputum culture positivity for *Pseudomonas aeruginosa*. Airway eosinophil protein concentrations did not associate with exacerbation frequency. Total eosinophil protein concentration moderately correlated with BECs (r=0.33 95% CI 0.14 to 0.49, p=0.0007). Nested analysis revealed increased sputum PCR-positivity for *P. aeruginosa* (26.7% vs 7.7%, p=0.033) and an increased frequency of patients showing signs of *Aspergillus* sensitisation (defined as *Aspergillus*-specific IgE titres >0.35 kUA/L, 24.5% vs 3.8%) in eosinophilic bronchiectasis. Sputum inflammatory biomarkers and clinical parameters did not differ between groups.

Conclusions: LC-MS/MS can detect eosinophilic inflammation within bronchiectasis sputum. Weak associations between elevated airway eosinophil proteins, bronchiectasis severity and *P. aeruginosa* infection were observed. Direct measurement of eosinophilic airway inflammation provides additional information in addition to BECs. Eosinophilic bronchiectasis associated with *P. aeruginosa* infection and *Aspergillus* sensitisation.

Keywords: Bronchiectasis; Eosinophil Biology.

Conflict of interest statement

Competing interests: MS: grants or contracts from GSK, Trudell Medical Int and Tel Aviv League for Lung Disease; Consulting fees from Astra Zeneca, Boehringer Ingelheim, Dexcel, Kamada, Synchrony Medical, Trumed, Vertex and Zambon; payment of honoraria from Astra Zeneca, Boehringer Ingelheim, GSK, Kamada, Sanofi and Insmed; support for attending meetings and/or travel from Boehringer Ingelheim Israel, Astra Zeneca Israel, Kamada, Rafa and GSK Israel; participation on a Data Safety Monitoring Board or Advisory Board from Bonus Biotherapeutics, Boehringer Ingelheim and Astra Zeneca; AJRCCM Associate Editor, management board member: Israeli Pulmonology Society, Israeli Society for Tuberculosis and Mycobacterial Diseases, Management Board member: EMBARC, editorial board member: ERJ, Chest and ERJ taskforce member: bronchiectasis guidelines; and receipt of equipment from Trudell Medical International for clinical trial. SA: grants or contracts from Insmed, Chiesi and Fisher and Paykel; royalties or licences from McGraw Hill; consulting fees from Insmed, Zambon, Astra Zeneca, CSL Behring GmbH, Grifols, Fondazione Internazionale Menarini, Moderna Italy, Moderna TX, Boehringer Ingelheim, Chiesi farmaceutica Spa, MSD Italia S.r.l., Vertex Pharmaceuticals, BRAHMS GMBH, Physioassist SAS, AN2 Therapeutics, GlaxoSmithKline Spa; payment or honoraria from GlaxoSmithKline Spa, Thermofisher Scientific, INSMED Italy, INSMED Ireland Ltd, Boehringer Ingelheim, Zambon, Vertex Pharmaceuticals, Fondazione Internazionale Menarini; participation on a Data Safety Monitoring Board or Advisory Board - INSMED Incorporated, INSMED Italy, AstraZeneca UK Limited, MSD Italia S.r.l and Verona Pharma plc. CH: consulting fees from 30 Technology, AstraZeneca, BiomX, Chiesi, Infex, Insmed, LifeArc, Pneumagen, Vertex and Zambon; payment or honoraria from Chiesi, Insmed, Vertex and Zambon; payment for expert testimony from Zambon; and unpaid ECFS Board member. SC: grants or contracts from Singapore Ministry of Health's National Medical Research Council under its Clinician-Scientist Individual Research Grant (MOH-001356), Singapore Ministry of Health's National Medical Research Council under its Clinician Scientist Award (MOH-000710), Open Fund Individual Research Grant (MOH-000955), Singapore Ministry of Education under its AcRF Tier 1 Grant (RT1/22) (S.H.C), National Research Foundation Singapore under its Open Fund-Large Collaborative Grant (MOH-001636) administered by the Singapore Ministry of Health's National Medical Research Council; consulting fees from CSL Behring, Boehringer Ingelheim, Pneumagen Ltd, Sanofi, Zaccha Pte Ltd.; payment or honoraria from Astra Zeneca and Chiesi Farmaceutici; participation on a Data Safety Monitoring Board or Advisory Board – Inovio Pharmaceuticals Inc. and Imam Abdulrahman Bin Faisal University. EP: grants or contracts from Grifols; consulting fees from Insmed, Grifols, Pfizer, Moderna, Chiesi, N2Therapeutics, Pari and Electromed; Payment or honoraria from Insmed, Pari, Teva, GSK, Pfizer, Moderna, Chiesi, Grifols and Vertex; support for attending meetings from Insmed; Director of the Scientific Relationship of ERS with European Union PG – Payment or honoraria from Insmed, RMEI, Astra Zeneca and GSK; support for attending meetings from Astra Zeneca; participation on a Data Safety Monitoring Board or Advisory Board – Boehringer, MSD and Pfizer; unpaid member of Belgian Respiratory Society Board Member. ML: consulting fees from Armata, 30T, Astra

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Editorial

Thorax

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Granules of truth: unpacking the eosinophilic endotype in bronchiectasis

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Affiliations Expand

- PMID: 41690777

- DOI: 10.1136/thorax-2025-224609

No abstract available

Keywords: Bronchiectasis; Eosinophil Biology.

Conflict of interest statement

Competing interests: None declared.

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Med

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Clearing the air: Clarifying data and interpretations from the ASPEN trial of brensocatib in bronchiectasis

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- PMID: 41690293

- DOI: 10.1016/j.medj.2026.100999

No abstract available

Conflict of interest statement

Declaration of interests J.D.C. reports grants or contracts from AstraZeneca, Chiesi, Genentech, Gilead Sciences, GlaxoSmithKline, Insmed, Grifols, Trudell, Verona, and Boehringer Ingelheim and consulting fees from AstraZeneca, Biomx, Chiesi, CSL Behring, Expedition, GlaxoSmithKline, Insmed, Grifols, Boehringer Ingelheim, Pfizer, Sanofi/Regeneron, and Zambon.

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BMC Pulm Med

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Hypertonic saline in non-cystic fibrosis bronchiectasis (Hyper-BRONCHI): an updated systematic review and meta-analysis

Nhan Nguyen [#1], Yacin Zawam [#2], Nghi Bao Tran [#3], Nathalia Alves de Barros E Lyra [#4], Vinh Quang Tri Ho [#3], David Downes [#5], Vy Ngoc Dan Nguyen [6], Ha Duc Thien Le [3], Jafar Aljazeeri [#7 8 9]

Affiliations Expand

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Keywords: FEV1; FVC; Hypertonic saline; Isotonic saline; Non-cystic bronchiectasis.

Conflict of interest statement

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- **16 references**

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ERJ Open Res

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. 2026 Feb 9;12(1):00491-2025.

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Characteristics of bronchiectasis in patients with different genotypes of severe α_1-antitrypsin deficiency from the EARCO registry

Francesca Mandurino Mirizzi [1 2], Cristina Aljama [3 2], Pierachille Santus [1], Marco Mantero [4], Maja Omcikus [5], María Torres-Duran [6 7], Alice M Turner [8 9], Hanan Tanash [10], Carlota Rodríguez-García [11], Jens-Ulrik Stæhr Jensen [12 13], Angelo Guido Corsico [14 15], José Luis López-Campos [7 16], Kenneth R Chapman [17], Christian Clarenbach [18], Catarina Guimaraes [19], Eva Bartošovská [20], José María Hernández-Pérez [21], Marc Miravitlles [3], Cristina Esquinas [22 23], Miriam Barrecheguren [3 23]

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Abstract

Background: α-1 antitrypsin deficiency (AATD) is a rare genetic disorder caused by mutations in the *SERPINA1* gene and associated with reduced levels of α-1 antitrypsin (AAT). It predisposes individuals to pulmonary diseases, including bronchiectasis, through protease-antiprotease imbalance and immune dysregulation. While the Pi*ZZ genotype has been extensively studied, the prevalence and characteristics of bronchiectasis in other genotypes remain unclear.

Methods: This cross-sectional study analysed data from the European α-1 Research Collaboration (EARCO) registry, focusing on individuals with bronchiectasis on computed tomography (CT). Participants were stratified by AATD genotypes (Pi*ZZ, Pi*SZ, Pi*SS and rare variants) and data were compared. Disease severity was evaluated using FACED (forced expiratory volume in 1 s (FEV_1), age, chronic colonisation, extension and dyspnoea) score and bronchiectasis severity index (BSI) scores.

Results: 349 patients had bronchiectasis on a CT scan, of whom 70.5% had Pi*ZZ, 18.6% had Pi*SZ, 4.3% had Pi*SS and 6.6% had rare variants. Lower lobe involvement was predominant across genotypes, whereas Pi*SS exhibited distinct upper lobe patterns and Pi*SZ showed more frequent middle lobe involvement. People with rare genotypes and Pi*ZZ had worse lung function (FEV_1 % of 65.3% and 71.4%, respectively) and higher disease severity scores. Emphysema co-occurrence was most frequent in Pi*ZZ (60.6%). No significant differences were observed in sputum microbiology or systemic inflammatory markers, except for lower platelet counts in Pi*ZZ subjects.

Conclusion: Bronchiectasis in AATD is not limited to the Pi*ZZ genotype, with significant phenotypic variability across genotypes. Lower lobe involvement and mild disease predominate; however, severe forms are more frequent in rare genotypes and Pi*ZZ. These findings underscore the importance of systematic screening and genotype-specific management to improve patient outcomes.

Conflict of interest statement

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Gebro, Grifols, GSK, Menarini, Sanofi and Zambon. C. Guimarães has received speaker fees from CSL Behring. J.M. Hernández-Pérez has received consulting fees from Grifols and CSL Behring; speaker fees from AstraZeneca, Bial, CSL Behring, FAES Laboratory, GlaxoSmithKline and Grifols; support for attending meetings from Grifols and CSL Behring; and honoraria for participation on advisory board from Grifols. M. Miravitlles has received speaker fees from AstraZeneca, Boehringer Ingelheim, Kamada, Chiesi, Cipla, Menarini, Rovi, Bial, Sandoz, Takeda, Zambon, CSL Behring, Specialty Therapeutics, Grifols, Sanofi-Regeneron and Novartis; consulting fees from AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Bial, Gebro Pharma, Kamada, CSL Behring, Laboratorios Esteve, Ferrer, Mereo Biopharma, Verona Pharma, TEVA, Spin Therapeutics, pH Pharma, Novartis, Sanofi-Regeneron and Grifols; and research grants from Grifols. C. Esquinas has received speaker fees from CSL Behring. The remaining authors report no conflicts of interest.

Editorial

ERJ Open Res

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Bronchiectasis in severe α_1-antitrypsin deficiency: lessons for the pulmonologist

Christine J Kang [1], Pamela J McShane [2]

Affiliations Expand

- PMID: 41668874
- PMCID: PMC12884376

- DOI: 10.1183/23120541.01473-2025

Abstract

There is heterogeneity of bronchiectasis within α_1-AT deficiency; hence, there is a need for broader screening strategies to ensure timely access to emerging therapies and inclusion in ongoing research efforts https://bit.ly/4nCZsxM.

Conflict of interest statement

Conflict of interest: The authors have no conflicts of interest relevant to this subject matter.

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Review

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Review of the British Thoracic Society Winter Meeting 26-29 November 2025

Cara A Flynn [1], Aleksandra Ola Howell [2], Imran Howell [3], Anthony W Martinelli [4], Christine Mwasuku [5], Mona Bafadhel [5], Nicholas A Maskell [6 7], Richard Ek Russell [5]

Affiliations Expand

- PMID: 41667268

- **DOI: 10.1136/thorax-2025-224712**

Abstract

Background: The 2025 British Thoracic Society (BTS) Winter Meeting delivered 3 days of cutting-edge science, clinical innovation and networking in wintry Westminster. Over 2500 attendees from 36 countries gathered to share advances shaping the future of respiratory medicine.

Content: The programme opened with a session focused on emerging clinical trial data, showcasing pragmatic and mechanistic studies designed to address real-world challenges in respiratory care, setting the tone for a meeting focused on impact and innovation.Translational research featured strongly throughout the meeting, with organoids, precision-cut lung slices and air-liquid interface cultures providing new perspectives on disease mechanisms and therapeutic targets. Early career investigators presented discoveries in eosinophilic chronic obstructive pulmonary disease biology, microbiome-driven viral susceptibility and resistance risks in novel bronchiectasis therapies, while midcareer leaders advanced understanding of familial interstitial lung disease and virus-host interactions.Plenary sessions tackled pressing challenges, from air pollution and breathlessness diagnostics to genetic drivers of pulmonary hypertension, complemented by guest lectures on immune regulation, vaccine-preventable illness and drug discovery. Additionally, the meeting highlighted workforce transformation, emphasising the role of nurses, allied health professionals and pharmacists in delivering integrated, digitally enabled care.

Conclusion: Reminding us that progress rests on both scientific endeavour and enduring professional bonds, the 2025 BTS Winter Meeting reaffirmed that respiratory research is for everyone-an essential driver of advancement across disciplines. Multidisciplinary working and inclusive engagement will be key to shaping future care and ensuring that innovation translates into better outcomes for patients worldwide.

Keywords: Eosinophil Biology; Global Warming; Not Applicable; Respiratory Infection; Viral infection.

Conflict of interest statement

Competing interests: MB, Research Professor, NIHR304263 is funded by the NIHR. The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care; receives to her institution consultancy and speaker honouraria from AstraZeneca and Roche; grant funding to her institution from AstraZeneca, NIHR, EU Horizon and Asthma+Lung UK; scientific advisor for Albus Health; and science and research committee chair of British Thoracic Society. RER: Research Grant to institution from Verona Pharma; Chair of the BTS. NAM, immediate past president of the BTS. CAF, AM and I(O)H are members of the BTS Science and Research committee, which planned the conference.

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