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

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Editorial

Respirology

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. 2026 Feb 1.

doi: 10.1002/resp.70199. Online ahead of print.

Challenges in the Management of Asthma and COPD in the Asia-Pacific Region

Fanny Wai San Ko [1], Chin Kook Rhee [2]

Affiliations Expand

- **PMID: 41620844**

- **DOI: 10.1002/resp.70199**

No abstract available

Keywords: COPD; asthma; challenges; management.

- **14 references**

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Respirology

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. 2026 Feb 1.

doi: 10.1002/resp.70178. Online ahead of print.

Addressing the Global Challenges of COPD and Asthma: A Shared Vision From the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) and the Global Initiative for Asthma (GINA)

David M G Halpin [1], Refiloe Masekela [2 3], Claus F Vogelmeier [4], Obianuju B Ozoh [5], Alvaro A Cruz [6], Helen K Reddel [7], Arzu Yorgancıoğlu [8], Alvar Agusti [9]; Boards of Directors of the Global Initiative for Chronic Obstructive Lung Disease (GOLD) and Global Initiative for Asthma (GINA)

Collaborators, Affiliations Expand

- PMID: 41620839

- DOI: 10.1002/resp.70178

No abstract available

Keywords: GINA; GOLD; asthma; chronic obstructive pulmonary disease; diagnosis; management; prevention.

- 36 references

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Lancet Respir Med

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. 2026 Jan 28:S2213-2600(26)00017-2.

doi: 10.1016/S2213-2600(26)00017-2. Online ahead of print.

Taking a wider view: The Lancet Respiratory Medicine Commission on bronchiectasis

James D Chalmers [1], Stefano Aliberti [2], Merete B Long [3], Jin-Fu Xu [4], Lucy Morgan [5], Hayoung Choi [6], Charles Haworth [7], Rebecca Hull [3], Arietta Spinou [8], Raja Dhar [9], Charles Daley [10], Pamela J McShane [11], Christina Thornton [12], Marcus A Mall [13], Sanjay H Chotirmall [14]; Lancet Respiratory Medicine Commission on bronchiectasis

Affiliations Expand

- PMID: 41619746

- DOI: 10.1016/S2213-2600(26)00017-2

No abstract available

Conflict of interest statement

JDC declares grants/contracts from AstraZeneca, Boehringer Ingelheim, Chiesi, Genentech, Gilead, Grifols, Insmed, and Trudell; consulting fees from Antabio, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Grifols, Insmed, Janssen, Novartis, Pfizer, and Zambon. SA declares grants/contracts to their institution from GlaxoSmithKline; consulting fees from Insmed, Insmed Netherlands, GlaxoSmithKline; payment/honoraria from Insmed Netherlands, Insmed Germany, Physioassist SAS, Boehringer Ingelheim Italia, Boehringer Ingelheim International, Thermo Fisher Scientific, Zambon Italia, Sanofi, Providens, Pfizer, Limare, GlaxoSmithKline, Chiesi Farmaceutici, and Vertex Pharmaceuticals (Europe); and participation on a data safety monitoring/advisory board for GlaxoSmithKline, Boehringer Ingelheim Italia, Moderna Italy, Zambon, Chiesi Farmaceutici, Insmed Incorporated, Insmed Netherlands, AN2 Therapeutics, Modernatx, and Boehringer Ingelheim International. MBL declares payment/honoraria from Grifols. LM declares consulting fees from GlaxoSmithKline, Boehringer Ingelheim, Insmed, MannKind, and ReCODE; payment/honoraria from GlaxoSmithKline, Boehringer Ingelheim, Insmed, and MannKind; support for attending meetings and/or travel from GlaxoSmithKline; participation on a data safety monitoring/advisory board for GlaxoSmithKline, Boehringer Ingelheim, and ReCODE; and role as Chair of the Lung Foundation Australia Board. HC declares grants from the Ministry of Education and AstraZeneca; consulting fees from Gilead, Boehringer Ingelheim, Abbott, and Kolong; and payment/honoraria from Boryung, Abbott, Otsuka, and Handok. CH declares grants/contracts to their institution from AstraZeneca; consulting fees from 30 Technology, AstraZeneca, BiomX, Boehringer Ingelheim, Chiesi, Clarametyx, Infex, Insmed, LifeArc, Pneumagen, Sanofi, Vertex, and Zambon; payment/honoraria from Chiesi, Insmed, Vertex, and Zambon; payment for expert testimony from Zambon; and is an ECFS

Board member. AS declares grants from Asthma and Lung UK; presentation honoraria from the National Defence Medical University of Taiwan; is a member of the British Thoracic Society Statement for childhood cough; and a member of the European Respiratory Society (ERS) Guidance for childhood chronic suppurative diseases. RD declares payment/honoraria from Cipla, Glen Mark, Zuventus, Lupin, GlaxoSmithKline, Sanofi, and AstraZeneca; and participation on a data safety monitoring/advisory board for Glen Mark, Lupin, Sun Pharma and Cipla. CD declares grants/contracts to their institution from AN2, Bugworks, Insmed, Paratek, Juvabis, Cystic Fibrosis Foundation, COPD Foundation, Spero, Verona/Merck, Renovion, and MannKind; consulting fees from Insmed; participation on a data safety monitoring or advisory board for Otsuka (DMC), Bill and Melinda Gates Foundation (DMC), AN2, AstraZeneca, Insmed, Paratek, Juvabis, Galapagos, Grifols, Spero, GlaxoSmithKline, Hyfe, MannKind, MicuRx, NobHill, and COPD Foundation; is a member of the Board of Directors for COPD Foundation; and holds Stocks from NobHill. PJM declares consulting fees from Insmed and Boehringer Ingelheim (steering committee); payment/honoraria from Insmed; and participation on a data safety monitoring/advisory board for AstraZeneca. CT declares grants/contracts from Canadian Institutes for Health Research (CIHR), Cystic Fibrosis Canada, Cystic Fibrosis Foundation, Insmed Incorporated, Trudell Healthcare Solutions, Weston Foundation, Alberta Innovates Health Solutions, Canadian Federation for Innovation and Baxter Medical; and support for attending meetings and/or travel from Cystic Fibrosis Foundation. MAM declares grants from German Research Foundation (DFG), German Ministry for Education and Research (BMBF) and Vertex Pharmaceuticals; contracts from Vertex Pharmaceuticals, Boehringer Ingelheim, and Enterprise Therapeutics; consulting fees from Boehringer Ingelheim, Enterprise Therapeutics, Kither Biotech, Pari, Splisense, and Vertex Pharmaceuticals; honoraria from Boehringer Ingelheim and Vertex Pharmaceuticals; travel reimbursement from Boehringer Ingelheim and Vertex Pharmaceuticals; participation on an advisory board for Boehringer Ingelheim, Enterprise Therapeutics, Kither Biotech, Pari, Splisense, and Vertex Pharmaceuticals; and an unpaid role as a Fellow of ERS (FERS). SHC declares grants/contracts to their institution from Singapore Ministry of Health, Open Fund Individual Research Grant, Singapore Ministry of Education, and National Research Foundation Singapore; consulting fees from CSL Behring, Boehringer Ingelheim, Pneumagen, Sanofi, Chiesi Farmaceutici, GlaxoSmithKline, and Zaccha Pte; payment/honoria from AstraZeneca, Chiesi Farmaceutici, CSL Behring, and Boehringer Ingelheim; and participation on a data safety monitoring/advisory board for Inovio Pharmaceuticals and Imam Abdulrahman Bin Faisal University. All other authors declare no conflicts of interest.

. 2026 Jan 31:33197261416660.

doi: 10.1177/00033197261416660. Online ahead of print.

Assessing Disparities in Long Term Outcomes in Non-ST Elevation Myocardial Infarction According to Presence of Obstructive Airways Disease

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Affiliations Expand

- PMID: 41619185

- DOI: 10.1177/00033197261416660

Abstract

Acute myocardial infarction is a major cause of mortality in individuals with obstructive airway disease. The impact of inpatient care quality following non-ST elevation myocardial infarction (NSTEMI) on long-term mortality among those with chronic obstructive pulmonary disease (COPD) and asthma remains poorly understood. We analysed 499 318 adults with NSTEMI from the Myocardial Ischaemia National Audit Project registry between 2005 and 2019, linked with Hospital Episode Statistics for airway disease diagnosis and Office for National Statistics data for mortality outcomes. Inpatient care quality was measured using the opportunity-based quality-indicator (OBQI) score. Long-term outcomes were evaluated using multivariable Cox regression and Kaplan-Meier analyses. Individuals with COPD and asthma received lower quality of care (OBQI score: no airways disease: 83.5 vs COPD: 78.1, asthma: 80.8, $P < .001$). Percutaneous coronary intervention was less frequent in COPD patients (22%) than in those without airway disease (30%) or with asthma (31%), $P < .001$. COPD was associated with higher 10-year mortality (hazard ratio [HR]: 1.58, 95% CI 1.56-1.60), whereas those with asthma had lower risk (HR: 0.97, 95% CI 0.95-0.98). COPD was associated with increased adjusted cardiovascular mortality (sub-distribution HR: 1.89, 95% CI 1.84-1.95). Individuals with COPD received lower-quality inpatient care and fewer coronary interventions, which was associated with higher long-term mortality.

Keywords: asthma; chronic obstructive pulmonary disease; epidemiology; mortality outcome; non-ST elevation myocardial infarction; quality of care.

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. 2026 Jan 29:S1569-1993(26)00025-1.

doi: 10.1016/j.jcf.2026.01.006. Online ahead of print.

Longitudinal changes in bone mineral density after initiation of elexacaftor-tezacaftor-ivacaftor in youth and adults with cystic fibrosis: PROMISE-ENDO

Meghan Shirley Bezerra [1], Babette S Zemel [2], Robert J Gallop [3], Rachel Walega [4], Scott H Donaldson [5], Carla A Frederick [6], Steven D Freedman [7], Daniel Gelfond [8], Lucas R Hoffman [9], Michael R Narkewicz [10], Steven M Rowe [11], Scott D Sagel [10], Sarah Jane Schwarzenberg [12], George M Solomon [13], Christine L Chan [10], Andrea Kelly [14]; PROMISE Endocrine Sub-study Group

Collaborators, Affiliations Expand

- PMID: 41617582

- DOI: 10.1016/j.jcf.2026.01.006

Abstract

Background: Low bone mineral density (BMD) and increased fracture risk are common in individuals with cystic fibrosis (CF). The extent to which the CF transmembrane conductance regulator (CFTR) modulator elexacaftor-tezacaftor-ivacaftor (ETI) benefits BMD was a focus of the endocrine sub-study of PROMISE, a multicenter observational study of clinically prescribed ETI. We examined changes in whole-body (WB), lumbar spine (LS), total hip (TH), and femoral neck (FN) areal BMD (aBMD, g/cm^2) in the 24-30 months (mos) following ETI initiation.

Methods: Participants had CF, ≥1 F508del mutation, and were aged ≥12 years (y). Dual-energy X-ray absorptiometry (DXA) scans of the WB, LS, TH, and FN were collected before and following 12-18 mos and 24-30 mos of ETI therapy. Changes in aBMD Z-scores (aBMDZ) were examined with longitudinal mixed effects models.

Results: Baseline aBMDZ was below-average at all skeletal sites in youth and adults (aBMDZ <0). Mixed model results for youth [n = 60 at baseline; average age 15y (range: 12-19.8); 48 % female] revealed decreases in WB (less head) (β-coefficient=-0.27; 95 %CI: -0.46, -0.09), LS (β=-0.26; 95 %CI: -0.42, -0.10), TH (β=-0.29; 95 %CI: -0.45, -0.13), and FN (β=-0.37; 95 %CI: -0.57, -0.17) aBMDZ between baseline and 12-18 mos. These changes persisted but did not worsen at 24-30 mos. Changes in adult [n = 73 at baseline; average age 28y (range: 20-58.8); 51 % female] aBMDZ were negative but modest compared to youth (no β-coefficient >-0.11).

Conclusions: Youth aBMDZ was lower at multiple skeletal sites 12-18 mos after ETI initiation, and these changes persisted at 24-30 mos. Adult aBMDZ generally remained unchanged.

Keywords: Bone mineral density; Cystic fibrosis; Cystic fibrosis-related bone disease; Dual-energy x-ray absorptiometry; Elexacaftor-tezacaftor-ivacaftor; Hip structural analysis; Z-score.

Conflict of interest statement

Declaration of competing interest MSB: Grant funding from the Cystic Fibrosis Foundation (BEZERR24B0) LRH: Grant funding from NIH, Cystic Fibrosis Foundation MRN: Consultant for Vertex, Scholar Rock, Cystic Fibrosis Foundation; honoraria from UpToDate; research support from Gilead, Cystic Fibrosis Foundation SMR: Chief Scientific Officer of the Cystic Fibrosis Foundation SDS: Grant funding from the Cystic Fibrosis Foundation SJS: Consultant for UpToDate; grant funding from the Cystic Fibrosis Foundation GMS: Chairman of the Bronchiectasis and NTM Research Registry; consultant for SpliSense, AstraZeneca, Sanofi; funding from NIH, Cystic Fibrosis Foundation, COPD Foundation, BiomX, 4DMT, Electromed, Vertex, Boehringer-Ingelheim, Insmed, Verona, Sanofi CLC: Grant funding from the Cystic Fibrosis Foundation AK: Grant funding from NIH, Cystic Fibrosis Foundation

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Respir Med

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. 2026 Jan 28:108682.

doi: 10.1016/j.rmed.2026.108682. Online ahead of print.

The impact of stepping up treatment from LABA/LAMA to extrafine single inhaler triple therapy on exacerbations of Greek patients with Chronic Obstructive Pulmonary Disease: The IMPROVE study

Epaminondas Kosmas [1], Konstantinos Bartziokas [2], Stylianos Loukides [3], Petros Bakakos [4], Nikoletta Rovina [4], Niki Georgatou [5], Dimosthenis Papapetrou [5], Panos Katerelos [6], Evangelia Papapostolou [7], Petros Efstathopoulos [7], Paschalis Steiropoulos [8], Konstantinos Kostikas [9]

Affiliations Expand

- **PMID: 41616872**

- **DOI: 10.1016/j.rmed.2026.108682**

Abstract

Objective: Extrafine single inhaler triple therapy (efSITT) with beclometasone dipropionate, formoterol fumarate, and glycopyrronium (BDP/FF/G 87/5/9 μg) has shown clinical benefits in Chronic Obstructive Pulmonary Disease (COPD) patients, including fewer exacerbations in randomized controlled trials. The IMPROVE study evaluated its real-world effectiveness in Greece in COPD patients previously treated with dual bronchodilation, focusing on exacerbations and other clinical outcomes.

Methods: This prospective, multicenter, observational study was conducted over 52 weeks. The 1103 eligible patients had moderate-to-severe COPD, an indication for treatment with efSITT, and were symptomatic despite receiving dual bronchodilation. The number of exacerbations, COPD Assessment Test (CAT) score, lung function parameters, use of rescue medication and adherence were recorded at baseline (visit 1), 6 months (visit 2), and 12 months (visit 3) after treatment.

Results: The percentage of patients with ≥1 exacerbation decreased from 100% at visit 1 to 23.1% at visit 3 ($p < 0.001$). The mean CAT score decreased from 22.5 points at visit 1, to 16.6 at visit 2 and 14.2 at visit 3 ($p < 0.001$ for all pair comparisons). The mean TAI score increased from 44.6 points at visit 1, to 47.1 at visit 2 and 47.6 at visit 3. ($p < 0.001$ for V1/2 and V1/3 pairs, $p = 0.024$ for V2/3). Between visit 1 and visit 3, mean FEV1 increased from 1.6 L to 1.7 L ($p < 0.001$, n=396).

Conclusions: The IMPROVE findings indicate that extrafine BDP/FF/G improves clinical outcomes in symptomatic COPD patients previously treated with dual bronchodilation in a real-world setting in Greece.

Keywords: COPD; Exacerbations; Extrafine; Health Status; Real-world; Single inhaler triple therapy.

Conflict of interest statement

Declaration of Competing Interest ☒ The authors declare the following financial interests/personal relationships which may be considered as potential competing interestsEpaminondas Kosmas, Niki Georgatou, Dimosthenis Papapetrou, Panos Katerelos, Paschalis Steiropoulos and Konstantinos Kostikas reports financial support was provided by Chiesi Hellas AEBE. Epaminondas Kosmas reports a relationship with Chiesi Hellas AEBE that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Epaminondas Kosmas reports a relationship with AstraZeneca that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Epaminondas Kosmas reports a relationship with Boehringer Ingelheim that includes: consulting or advisory and speaking and lecture fees. Epaminondas Kosmas reports a relationship with GSK that includes:

consulting or advisory, speaking and lecture fees, and travel reimbursement. Epaminondas Kosmas reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees and travel reimbursement. Epaminondas Kosmas reports a relationship with Guidotti that includes: speaking and lecture fees. Epaminondas Kosmas reports a relationship with Elpen Pharmaceuticals that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Konstantinos Bartziokas reports a relationship with Chiesi Hellas AEBE that includes: speaking and lecture fees and travel reimbursement. Konstantinos Bartziokas reports a relationship with GSK that includes: speaking and lecture fees and travel reimbursement. Konstantinos Bartziokas reports a relationship with Elpen Pharmaceuticals that includes: speaking and lecture fees and travel reimbursement. Konstantinos Bartziokas reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees and travel reimbursement. Konstantinos Bartziokas reports a relationship with Specialty Therapeutics that includes: speaking and lecture fees. Konstantinos Bartziokas reports a relationship with Guidotti that includes: travel reimbursement. Stylianos Loukides reports a relationship with AstraZeneca that includes: speaking and lecture fees and travel reimbursement. Stylianos Loukides reports a relationship with GSK that includes: funding grants and speaking and lecture fees. Stylianos Loukides reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees and travel reimbursement. Stylianos Loukides reports a relationship with Guidotti that includes: speaking and lecture fees. Stylianos Loukides reports a relationship with Elpen Pharmaceuticals that includes: speaking and lecture fees and travel reimbursement. Stylianos Loukides reports a relationship with Chiesi Hellas AEBE that includes: speaking and lecture fees and travel reimbursement. Stylianos Loukides reports a relationship with Hellenic Thoracic Society that includes: board membership. Petros Bakakos reports a relationship with Menarini Hellas SA that includes: consulting or advisory and speaking and lecture fees. Petros Bakakos reports a relationship with GSK that includes: consulting or advisory and speaking and lecture fees. Petros Bakakos reports a relationship with AstraZeneca that includes: consulting or advisory and speaking and lecture fees. Petros Bakakos reports a relationship with Guidotti that includes: consulting or advisory and speaking and lecture fees. Petros Bakakos reports a relationship with Chiesi Hellas AEBE that includes: consulting or advisory and speaking and lecture fees. Petros Bakakos reports a relationship with Hellenic Thoracic Society that includes: board membership. Nikoletta Rovina reports a relationship with AstraZeneca that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Nikoletta Rovina reports a relationship with Pfizer that includes: speaking and lecture fees. Nikoletta Rovina reports a relationship with Chiesi Hellas AEBE that includes: speaking and lecture fees and travel reimbursement. Nikoletta Rovina reports a relationship with GSK that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Nikoletta Rovina reports a relationship with Guidotti that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Nikoletta Rovina reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees and travel reimbursement. Nikoletta Rovina reports a relationship with Hellenic Thoracic Society that includes: board membership. Niki Georgatou reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees. Dimosthenis Papapetrou reports a relationship with Menarini Hellas SA that includes: speaking and lecture fees and travel reimbursement. Dimosthenis Papapetrou reports a relationship with Guidotti that includes: speaking and lecture fees and travel

reimbursement. Dimosthenis Papapetrou reports a relationship with AstraZeneca that includes: speaking and lecture fees and travel reimbursement. Dimosthenis Papapetrou reports a relationship with Elpen Pharmaceuticals that includes: travel reimbursement. Dimosthenis Papapetrou reports a relationship with RAFARM S.A. that includes: travel reimbursement. Paschalis Steiropoulos reports a relationship with AstraZeneca that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with Boehringer Ingelheim that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with Chiesi Hellas AEBE that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with Elpen Pharmaceuticals that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with GSK that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with Guidotti that includes: consulting or advisory and speaking and lecture fees. Paschalis Steiropoulos reports a relationship with Menarini Hellas SA that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Paschalis Steiropoulos reports a relationship with Specialty Therapeutics that includes: consulting or advisory and speaking and lecture fees. Konstantinos Kostikas reports a relationship with AstraZeneca that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Konstantinos Kostikas reports a relationship with Boehringer Ingelheim that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Konstantinos Kostikas reports a relationship with Chiesi Hellas AEBE that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Konstantinos Kostikas reports a relationship with Elpen Pharmaceuticals that includes: consulting or advisory, funding grants, and speaking and lecture fees. Konstantinos Kostikas reports a relationship with GSK that includes: consulting or advisory, funding grants, and speaking and lecture fees. Konstantinos Kostikas reports a relationship with Menarini Hellas SA that includes: consulting or advisory, funding grants, speaking and lecture fees, and travel reimbursement. Konstantinos Kostikas reports a relationship with Pfizer that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. Konstantinos Kostikas reports a relationship with Sanofi that includes: consulting or advisory, speaking and lecture fees, and travel reimbursement. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Respir Med

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. 2026 Jan 28:253:108681.

doi: 10.1016/j.rmed.2026.108681. Online ahead of print.

Eligibility for biological treatments in COPD patients experiencing a severe COPD exacerbation

Stavroula Zaneli [1], Agamemnon Bakakos [1], Konstantinos Bartziokas [2], Anastasia Papaporfyriou [3], Kyriaki Cholidou [1], Nektarios Anagnostopoulos [1], Georgios Zakynthinos [4], Evangelos Oikonomou [4], Angelos Vontetsianos [1], Nikolaos Chynkiamis [1], Christina Anagnostopoulou [1], Nikoletta Rovina [1], Petros Bakakos [1], Andriana I Papaioannou [5]

Affiliations Expand

- PMID: 41616871

- DOI: 10.1016/j.rmed.2026.108681

Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) exacerbations are important events in the natural history of the disease with debilitating consequences which include more rapid lung function decline, quality of life deterioration and increased risk of cardiovascular events and mortality. Inflammation in COPD is complex and is intrinsically less responsive to corticosteroids compared to asthma. Biologics could possibly reduce the burden of inflammation in selected patients.

Methods: In this single center retrospective study, we evaluated the eligibility of COPD patients hospitalized during the last 6 years in the respiratory department of a tertiary hospital for a severe COPD exacerbation, to receive either dupilumab or mepolizumab according to the inclusion criteria of their respective randomized controlled trials and GOLD 2026 recommendations.

Results: 496 patients were included in the study, 83 (16.7 %) patients were eligible for treatment with mepolizumab and 29 (5.8 %) for treatment with dupilumab, while 413 (83.3 %) were not eligible for any of the biologics currently approved for COPD treatment. Patients who were eligible for biologics had lower FEV_1/FVC ratio and had experienced more COPD exacerbations and more hospitalizations for COPD exacerbations in the previous year compared to those characterized as non-eligible. The main factor missing from non-eligible patients was treatment with triple inhaled medication, prior to hospitalization.

Conclusion: Only a minority of patients hospitalized due to severe COPD exacerbation would have been eligible to receive biologic therapy. Optimization of medical treatment including inhaled medication in addition to disease phenotyping are pivotal for the recognition of the patients which will benefit from the use of biologics.

Keywords: Biologics; COPD; Eosinophils; Exacerbations; Hospital admission.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:Nektarios Anagnostopoulos has received honoraria for lectures and, presentations from Menarini, Guidotti, Astra Zeneca and GSK and for expert testimony from Menarini, Chiesi, Astra Zeneca, GSK Vivisol and ELPEN.Petros Bakakos has received Consulting fees from Astra Zeneca, GSK, Chiesi and Guidotti, honoraria for lectures from Astra Zeneca, GSK, Chiesi, Menarini Pfizer and GuidottiAndriana I Papaioannou has received consulting fees from Astra Zeneca and GSK and honoraria for lectures from Astra Zeneca, GSK, Chiesi, Menarini Pfizer, ELPEN, Alector, Opella, Specialty Therapeutics and Guidotti and support for attending meetings from Astra Zeneca, GSK, Chiesi, Menarini Pfizer, ELPEN, Alector, Opella, Specialty Therapeutics and Guidotti.Nikoleta Rovina has received honoraria for lectures from Astra Zeneca, Chiesi, Menarini Pfizer, ELPEN, MSD and Guidotti, support for attending meetings from Menarini, Astra Zeneca, Chiesi and Guidotti, and fees for participation in advisory boards from Menarini, Astra Zeneca, Chiesi and Guidotti.All other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

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J Gen Intern Med

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. 2026 Jan 30.

doi: 10.1007/s11606-025-10161-0. Online ahead of print.

Antibiotic Use in Patients with Acute Exacerbations of Chronic Obstructive Pulmonary Disease: A Multicenter Retrospective Cohort Study

Arnav Agarwal [1 2], Saeha Shin [3], Sarah Malecki [4], Sohrab Towfighi [5], Samir Gupta [6 7], Mike Fralick [8], Janice Kwan [8], Lauren Lapointe-Shaw [9], Shail Rawal [9], Terence Tang [10], Mark McIntyre [8], Fahad Razak [3 4 11], Amol Verma [12 13 14]

Affiliations Expand

- PMID: 41615524

- DOI: 10.1007/s11606-025-10161-0

Abstract

Background: The use of antibiotics in acute exacerbations of chronic obstructive pulmonary disease (AECOPD) with clear evidence of pneumonia is considered standard practice. However, without radiographic bacterial pneumonia, the net impact of antibiotics is equivocal.

Objective: To study physician-level practice variation in antibiotic prescribing and associated outcomes for patients hospitalized with AECOPD without pneumonia.

Design: Retrospective cohort study.

Participants: Patients admitted to general internal medicine wards across seven hospitals in Ontario, Canada, between April 2010 and December 2020 with AECOPD without pneumonia. Each hospitalization was attributed to the admitting physician.

Exposure: To avoid indication bias (sicker patients are more likely to receive antibiotics), the main exposure was the propensity of a patient's physician to prescribe antibiotics in AECOPD, measured by the proportion of their AECOPD patients treated with antibiotics.

Main measures: We studied four outcomes using multivariable regression to adjust for patient baseline characteristics: in-patient mortality, intensive care unit (ICU) transfer, 30-day hospital readmission, and hospital length of stay (LOS).

Key results: The cohort included 2043 hospitalizations cared for by 106 physicians. Overall, 52.1% of patients were treated with antibiotics. Physician antibiotic prescribing ranged from 15.2 to 96.2% (median 69.2%, IQR 50.9 to 76.5). Physician propensity to prescribe antibiotics was not significantly associated with patient-level clinical outcomes, including in-patient mortality (adjusted odds ratio [aOR] 1.05, 95% confidence intervals [CI] = 1.00 to 1.10), ICU transfer (aOR 1.04, 95%CI = 1.00 to 1.09), 30-day readmission (aOR 1.01, 95%CI = 0.99 to 1.02), and hospital LOS (adjusted risk ratio 1.00, 95%CI = 0.99 to 1.00) (all not statistically significant).

Conclusions: More than half of patients hospitalized to a medical ward with AECOPD without pneumonia were treated with antibiotics. Antibiotic prescribing varied widely across physicians, and greater prescribing was not associated with better outcomes.

Conflict of interest statement

Declarations. Ethics Approval: Research ethics board approval was obtained from all participating hospitals. The ethics boards granted a waiver of informed consent given the large, retrospective nature of the study. Consent to Participate: Not applicable. Author Access to Data: AA, AV, and FR had full access to all data used in the study and took responsibility for the integrity of the data and the accuracy of

the data analysis. Guarantor Statement: The first author (AA) and the corresponding author (AV) attest that all listed authors meet the authorship criteria and that no others meeting the criteria have been omitted; and take full responsibility for the content of the manuscript, including the data and analysis. Conflict of interest: All authors have completed the ICMJE uniform disclosure form at http://www.icmje.org/disclosure-of-interest/ and declare: no support from any organization for the submitted work; no financial relationships with any organizations that might have an interest in the submitted work in the previous 3 years; and no other relationships or activities that could appear to have influenced the submitted work.

- 39 references

Supplementary info

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Thorac Res Pract

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. 2026 Jan 30;27(1):11-20.

doi: 10.4274/ThoracResPract.2025.2025-6-6.

Expiratory Muscle Strength, Peak Oxygen Consumption and Hyperinflation Predicts Severe Exacerbation in Chronic Obstructive Pulmonary Disease Patients

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Affiliations Expand

- PMID: 41614977

- DOI: 10.4274/ThoracResPract.2025.2025-6-6

Abstract

Objective: To explore the predictive ability of physiological and clinical parameters, including respiratory muscle strength, peak oxygen consumption, exercise capacity assessed by the six-minute walk distance (6MWD), pulmonary function, and arterial

blood gas for identifying patients with chronic obstructive pulmonary disease (COPD) who are at risk of frequent severe acute exacerbations.

Material and methods: This retrospective, observational study analyzed data from 265 patients who were hospitalized for severe exacerbations between January 1st, 2018 to February 28th,, 2024. Patients were classified as infrequent or frequent exacerbators based on the annual frequency of severe exacerbations. Binary logistic regression models were used to identify independent predictors, adjusting for clinically relevant covariates.

Results: In adjusted multivariate analysis, maximal expiratory pressure [odds ratio (OR): 0.989; 95% confidence interval (CI): 0.980-0.998; *P* = 0.014], 6MWD (OR: 0.997; 95% CI: 0.994-1.000; *P* = 0.028), 6MWD% (OR: 0.985; 95% CI: 0.970-0.999; *P* = 0.041), peak oxygen consumption (OR: 0.874; 95% CI: 0.776-0.986; *P* = 0.028), residual volume (OR: 1.006; 95% CI: 1.001-1.011; *P* = 0.017), and functional residual capacity (OR: 1.008; 95% CI: 1.001-1.014; *P* = 0.028) emerged as significant predictors of frequent severe exacerbations.

Conclusion: Expiratory muscle weakness, reduced peak oxygen consumption, diminished exercise capacity, and pulmonary hyperinflation are independent predictors of frequent severe acute exacerbations in patients with COPD. Incorporating these parameters into routine assessments may enhance risk stratification and goal-directed therapies, and potentially reduce hospitalization rates.

Keywords: Chronic obstructive pulmonary disease; flare-up; functional residual capacity; maximal respiratory pressures; oxygen consumption; walk test.

Conflict of interest statement

No conflict of interest was declared by the authors.

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BMC Pulm Med

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. 2026 Jan 29.

doi: 10.1186/s12890-026-04118-0. Online ahead of print.

Prognostic assessment of the COPD patient: it is time to consider respiratory muscle ultrasound

Zeyang Dong [1], Mengyao Zhao [1], Xixi Sun [2], Xianting Yan [3], Sihui Zheng [3], Jian Ye [#4], Bin Huang [#5], Jin Ge [#6]

Affiliations Expand

- PMID: 41612249

- DOI: 10.1186/s12890-026-04118-0

Free article

No abstract available

Keywords: COPD; Diaphragm; Respiratory muscle ultrasound; Shear-wave elasticity.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All participants were informed of this study in advance and consent and informed consent were obtained from all participants. Consent for publication: This article has not been submitted or published in other journals, so the authors agree to submit the article to your journal. Images or clinical details that would identify participants were not included in this study. And written informed consent was obtained from all participants (or their legal guardians) for the publication of clinical details and/or images. Competing interests: The authors declare no competing interests.

- 34 references

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Editorial

Eur Respir J

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. 2026 Jan 29;67(1):2600026.

doi: 10.1183/13993003.00026-2026. Print 2026 Jan.

The *European Respiratory Journal* 2026: towards the golden age of respiratory science?

James D Chalmers [1], Neil J Bullen [2], Don D Sin [3 4]

Affiliations Expand

- PMID: 41611258

- DOI: 10.1183/13993003.00026-2026

No abstract available

Conflict of interest statement

Conflict of interest: J.D. Chalmers reports grants or contracts from AstraZeneca, Chiesi, Genentech, Gilead Sciences, GlaxoSmithKline, Insmed, Grifols, Trudell, Verona and Boehringer Ingelheim, consulting fees from AstraZeneca, Biomx, Chiesi, CSL Behring, Expedition, GlaxoSmithKline, Insmed, Grifols, Boehringer Ingelheim, Pfizer, Sanofi/Regeneron and Zambon, and is the Chief Editor of the European Respiratory Journal and an editorial board member of both the European Respiratory Review and ERJ Open Research. N.J. Bullen is an employee of the European Respiratory Society. D.D. Sin has received a stipend for giving talks on COPD from AstraZeneca, GlaxoSmithKline and Boehringer Ingelheim, and is the Deputy Chief Editor of the European Respiratory Journal.

Supplementary info

Publication typesExpand

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Blood Purif

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. 2026 Jan 29:1-20.

doi: 10.1159/000550776. Online ahead of print.

Prediction of long-term mortality in acute hypercapnic respiratory failure with use of low-flow veno-venous extracorporeal CO2 removal (ECCO2R): A retrospective single-center study

Anne-Aylin Sigg, Stefanie Keiser, Shalimar Mila Konopasek, Stephanie Klinzing, Pedro David Wendel-Garcia, Marco Maggiorini, Reto Andreas Schuepbach, Matthias Peter Hilty

- PMID: 41610067

- DOI: 10.1159/000550776

Free article

Abstract

Introduction Hypercapnic respiratory failure is associated with high morbidity and mortality. Low-flow extracorporeal CO2 removal (ECCO2R) has been shown to facilitate lung protective ventilation or spontaneous breathing. However, three multicenter randomized trials have failed to show benefit which could potentially be a result of patient selection. In this study, we aimed to characterize prognostic scores developed for extracorporeal membrane oxygenation therapy which could potentially assist with the selection of patients for ECCO2R. Methods 70 patients admitted to the ICU at the University Hospital of Zurich between 10/2009 and 02/2017 with hypercapnic respiratory failure were treated with ECCO2R if pH ≤ 7.25 and/or PaCO2 ≥ 9kPa experiencing respiratory exhaustion during spontaneous breathing in obstructive lung disease or reaching the limits of lung protective ventilation (n=22 and n=48) in patients with restrictive lung pathologies. Data including baseline characteristics and respiratory parameters were collected prospectively. Scores were calculated retrospectively. Results The underlying diseases were ARDS (n=27), COPD (n=12), bronchiolitis obliterans syndrome (n=9), cystic fibrosis (n=10), pulmonary fibrosis (n=8) and other causes (n=4). 180-day mortality was 45.7% with the highest rate observed in PF and BOS patients as well as in patients who had been mechanically ventilated > 6 days before initiation of ECCO2R. The modified PRedicting dEath for SEvere hypercapnic Respiratory failure on vv-ECCO2R (PRESERVE-CO2) score differentiated well between survivors and non-survivors (4.3 ± 2.2 vs 6.9 ± 2.6, p < 0.01), whereas the modified Respiratory ECMO Survival Prediction (RESP-CO2) score showed no significant distinction. Receiver operating characteristics analysis of the PRESERVE-CO2 score revealed an area under the curve of 0.78, suggesting a cut-off of 7 points. Conclusion Careful selection of patients for ECCO2R therapy may help to improve outcomes. The proposed PRESERVE-CO2 score may serve as a guide. A score of 7 points or higher is associated with an unfavorable outcome regarding the 180-day mortality in the specific patient cohort of this study, but future studies to externally validate this score are required.

Full text links

Cite

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Multicenter Study

Radiol Cardiothorac Imaging

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. 2026 Feb;8(1):e250205.

doi: 10.1148/ryct.250205.

Artificial Intelligence-derived Measurements of Myosteatosis from Coronary Artery Calcium CT Scans to Predict COPD: The Multi-Ethnic Study of Atherosclerosis

Amir Azimi [1], Kyle Atlas [1], Anthony P Reeves [2], Chenyu Zhang [1], Jakob Wasserthal [3], Seyed Reza Mirjalili [1], Thomas Atlas [4], Claudia I Henschke [5], David F Yankelevitz [5], Javier J Zulueta [5], Juan P de-Torres [6], Luis M Seijo [7], Jeffrey I Mechanick [8], Andrea Branch [5], Ning Ma [5], Rowena Yip [5], Wenjun Fan [9], Sion K Roy [10], Khurram Nasir [11], Sabee Molloi [9], Zahi A Fayad [5], Michael V McConnell [12], Ioannis A Kakadiaris [13], George S Abela [14], Rozemarijn Vliegenthart [15], David J Maron [11], Jagat Narula [13], Kim A Williams [16], Prediman K Shah [17], Matthew J Budoff [10], Daniel Levy [15], Emelia J Benjamin [18], Roxana Mehran [5], Robert A Kloner [19], Nathan D Wong [20], Morteza Naghavi [1]

Affiliations Expand

- PMID: 41609478

- DOI: 10.1148/ryct.250205

Abstract

Purpose To evaluate the predictive value of myosteatosis as an opportunistic finding in coronary artery calcium (CAC) CT scans for clinically diagnosed chronic obstructive pulmonary disease (COPD) and compare it with an artificial intelligence (AI)-measured biomarker of emphysema derived from the same scans. **Materials and Methods** In this prospective study, baseline CAC CT scans and 20-year follow-up data were analyzed. Myosteatosis was defined as the lowest quartile of thoracic skeletal muscle mean attenuation (males < 33.5 HU, females < 27.0 HU). The emphysema-like lung biomarker was quantified as the percentage of lung voxels below -950 HU in CAC CT scans. COPD was identified using the *International*

Classification of Diseases, Ninth Revision, Clinical Modification, and *International Classification of Diseases, 10th Revision, Clinical Modification* diagnostic codes from hospital discharge records. Hazard ratios (HRs) for COPD were calculated using proportional hazard regression models, comparing the bottom versus top quartiles of myosteatosis and emphysema-like lung measurements. Results Among 5535 participants in the Multi-Ethnic Study of Atherosclerosis (mean age ± SD, 62.2 years ± 10.3, 47.6% males), 396 (7.1%) were diagnosed with COPD over the 20-year follow-up period. Myosteatosis showed a stronger association with COPD than emphysema (unadjusted HRs, 5.98 [95% CI: 4.14, 8.63] and 2.12 [95% CI: 1.61, 2.78], respectively [$P < .001$]). After adjusting for covariates (age, sex, smoking status, body mass index, race, asthma, physical activity, inflammatory markers, and insulin resistance), the HRs were reduced to 2.74 (95% CI: 1.81, 4.16) and 1.50 (95% CI: 1.12, 2.00), respectively ($P = .02$). Conclusion AI-measured myosteatosis in CAC CT scans strongly predicted future diagnosed COPD independently of known risk factors. Keywords: Applications-CT, Pulmonary, Thorax, Adipose Tissue (Obesity Studies), Chronic Obstructive Pulmonary Disease, Metabolic Disorders, Myosteatosis, Coronary Artery Calcium Scan, Emphysema, AI-CVD ClinicalTrials.gov: NCT00005487 *Supplemental material is available for this article.*

Keywords: AI-CVD; Adipose Tissue (Obesity Studies); Applications-CT; Chronic Obstructive Pulmonary Disease; Coronary Artery Calcium Scan; Emphysema; Metabolic Disorders; Myosteatosis; Pulmonary; Thorax.

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Review

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. 2026 Jan 29:1-15.

doi: 10.1080/09593985.2026.2618081. Online ahead of print.

Association between sleep disorders and functional status in individuals with chronic obstructive pulmonary disease: a systematic review

Isabela Julia Cristiana Santos Silva [1], Manuela Karloh [1 2], Julia Zanotto [1 2], Gustavo Faustino Demétrio [1 2], Guilherme de Oliveira da Silva [1 2], Monielly Simas [1 2], Juliana Araújo [1 3], Anamaria Fleig Mayer [1 2 3]

Affiliations Expand

- PMID: 41609203

- DOI: 10.1080/09593985.2026.2618081

Abstract

Background: Sleep disorders and reduced functional status are common in individuals with chronic obstructive pulmonary disease (COPD) and negatively impact health outcomes. However, their association remains unclear. This systematic review aimed to synthesize evidence on the association between sleep disorders and functional status in individuals with COPD, and identify the instruments, variables, and diagnostic criteria used to assess these outcomes.

Methods: A comprehensive search was initially conducted in 2021 and updated twice, with the final search performed on July 11, 2025, in CINAHL, Cochrane Library, EMBASE, LILACS, MEDLINE, PEDro, SciVerse Scopus, and Web of Science. Reporting and methodological quality were assessed using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist and the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies.

Results: Fifteen studies were included, totaling 2297 individuals with COPD. Sleep disorders were assessed using six diagnostic methods, and functional status was evaluated using three approaches. Twelve studies met 50-80% of STROBE criteria, and three met > 80%. Methodological quality was fair in 73%, good in 13% and poor in 13% of the studies. Sleep disorders were weakly to moderately associated with functional status, including field walking tests, maximal exercise capacity, and time spent in physical activity > 1.5 METs.

Conclusion: Moderate methodological quality suggests a weak-to-moderate association between sleep disorders and functional status in individuals with COPD. Further high-quality studies using validated instruments and study designs tailored to minimize bias are warranted to clarify this relationship and enhance its clinical applicability.

Keywords: Pulmonary disease, chronic obstructive; functional status; sleep wake disorders.

Supplementary info

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15

JRSM Cardiovasc Dis

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. 2026 Jan 26:15:20480040261418101.

doi: 10.1177/20480040261418101. eCollection 2026 Jan-Dec.

Trends in Mortality Due to Coexisting Chronic Obstructive Pulmonary Disease and Ischemic Heart Disease in the United States, 1999-2020: A Retrospective Observational Study

Reyan Hussain Shaikh [1], Mariam Shahabi [2], Mian Muinuddin Jamshed [1], Hashim Ishfaq [1], Kamran Hussain [3], Navaira Azeem [3], Osman Faheem [3]

Affiliations Expand

- PMID: 41608087
- PMCID: PMC12835507
- DOI: 10.1177/20480040261418101

Abstract

Objectives: To describe trends in chronic obstructive pulmonary disease (COPD) and ischemic heart disease (IHD)-related mortality in the United States from 1999 to 2020 using data from CDC WONDER.

Methods: This study analyzed mortality data from CDC WONDER, identifying decedents aged 25 years and above using ICD-10 codes. A total of 1,459,562 deaths occurred between 1999 and 2020. Annual crude and age-adjusted mortality rates (AAMRs) per 100,000 were calculated and stratified by age, sex, race, and region. Annual percentage changes (APC) were determined using Joinpoint regression.

Results: The overall AAMR declined from 24.78 in 1999 to 18.5 in 2020, with a gradual decrease from 1999 to 2018 (APC = -2.06 [95% CI: -2.27, -1.90]) and a subsequent rise through 2020 (APC = 4.53 [95% CI: 0.56,6.41]). Males had higher AAMRs (28.2) than females (13.95). Non-Hispanic Whites had the highest AAMRs (21.93). Mortality among adults aged 45-64 was stable until 2008, then increased through 2020. For adults ≥ 65 years, AAMRs declined until 2018 but rose sharply thereafter. Non-metropolitan areas (AAMR: 26.29) had higher mortality than metropolitan areas (AAMR: 18.42). States in the 90th percentile, such as Tennessee

and Kentucky, had AAMRs approximately three times higher than those in the 10th percentile, including Arizona and Hawaii.

Conclusions: Substantial demographic and regional disparities persist in COPD and IHD-related mortality, necessitating targeted interventions in high-risk populations.

Keywords: COPD; IHD; disparities; epidemiology; mortality.

Conflict of interest statement

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

- 29 references
- 6 figures

Full text links

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16

Review

Breathe (Sheff)

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. 2026 Jan 27;22(1):250243.

doi: 10.1183/20734735.0243-2025. eCollection 2026 Jan.

Post-tuberculosis lung disease

Yasmeen Al-Hindawi [1 2], Onno W Akkerman [3 4], Anthony Byrne [1 2 5], Raquel Duarte [6 7 8], Ernesto Jaramillo [9], Olha Konstantynovska [10 11 12], Chiara Premuda [13], Cristina Vilaplana [14], Giovanni Battista Migliori [15], Gunar Günther [16 17], Kerri Viney [18], Dennis Falzon [18]

Affiliations Expand

- PMID: 41607640

- PMCID: PMC12839470

- DOI: 10.1183/20734735.0243-2025

Abstract

Tuberculosis (TB) burden concentrates in low-income settings and remains the leading global cause of death from a single infectious agent, despite that it is preventable and treatable. TB-associated lung diseases (TBALD), a broad range of respiratory abnormalities which can start before or during a TB episode, may increase morbidity. TBALD may persist after successful completion of TB treatment as post-TB lung disease (PTLD). PTLD varies in severity and is characterised by persistent respiratory symptoms and lung impairment that can significantly impact social activities, health-related quality of life, and long-term survival. Risk factors for PTLD include increasing age, smoking, HIV infection, delayed diagnosis, and poor socioeconomic conditions. Action to limit PTLD may be taken before TB develops through TB screening, early diagnosis and TB preventive treatment, during treatment of TB, and upon its completion. Early detection, clinical assessment, and tailored management (including smoking cessation, immunisation, addressing respiratory comorbidities, pulmonary rehabilitation and social protection) can mitigate impairment and disability. Healthcare providers and national programmes play a vital role through clinical follow-up, patient education, and integration of TBALD care into broader health and social protection services. Sustained funding and research are crucial for this and to develop new tools to enhance care.

Conflict of interest statement

Conflict of interest: The following authors declare no conflicts of interest: Y. Al-Hindawi, O.W. Akkerman, R. Duarte, G. Günther, E. Jaramillo, G. Battista Migliori and C. Premuda. A. Byrne declares honoraria from HealthEd, GSK and Pfizer for educational lectures for general practitioners, medical specialists and other healthcare professionals on topics of post-viral respiratory sequelae including long COVID. He also declares being on the data safety and monitoring board of a phase 1 clinical trial for COPD. O. Konstantynovska declares being chairperson (unpaid) of the Tuberculosis and Non-Tuberculous Mycobacteria Diseases group (10.02) of the European Respiratory Society (ERS) Assembly 10: Respiratory Infections. She also reports travel support from ERS to attend the ERS Spring Meeting in Zürich in 2025. C. Vilaplana declares being the secretary (unpaid) of the Tuberculosis and Non-Tuberculous Mycobacteria Diseases group (10.02) of the ERS Assembly 10: Respiratory Infections and declares complimentary registration to the ERS Conference 2025 for this role. She also declares membership of 2 non-profit foundations: FUITB (www.uitb.cat/fundacio-uitb/) and ACTMON (www.actmon.org/index.php). In addition, she declares grants to her employer from the Catalan Government through 2021 SGR 00920. D. Falzon and K. Viney are staff members of the World Health Organization (WHO). The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions or policies of the WHO. D. Falzon also reports support from ERS, namely complimentary registration and coverage of travel expenses for participation in the annual ERS congress as a speaker, and other

funds to WHO, his employer, for activities on TB. O.W. Akkerman is an associate editor of this journal.

- 68 references
- 3 figures

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BMC Pulm Med

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. 2026 Jan 28.

doi: 10.1186/s12890-026-04144-y. Online ahead of print.

The predictive value of combined detection of serum IL-33, TSLP and eosinophils in the treatment effect and exacerbation risk of chronic obstructive pulmonary disease

Jie Xu [1], Yong Wang [2], Haitong Gu [3], Xiao Chen [4]

Affiliations Expand

- PMID: 41606552

- DOI: 10.1186/s12890-026-04144-y

Free article

Abstract

Background: Chronic obstructive pulmonary disease (COPD) is a prevalent respiratory condition with high morbidity and mortality. This study aimed to investigate the relationship between interleukin-33 (IL-33), thymic stromal lymphopoietin (TSLP), and eosinophilic granulocyte (EOS) levels and the treatment effect and exacerbation risk of COPD.

Methods: A total of 225 COPD patients who were diagnosed and treated in our hospital from October 2021 to September 2024 were selected as the research

objects for retrospective analysis and study, and were recorded as the COPD group. 200 subjects who underwent physical examination in our hospital at the same period were selected as the control group. The serum levels of IL-33, TSLP and EOS were compared between the two groups. The patients were divided into the effective group (102 cases) and the ineffective group (123 cases) according to the reduction of chronic obstructive pulmonary disease assessment test (CAT) score not less than 2 points or lung function grade not less than 1 grade after 1 week of treatment (considered effective). After a 12-month follow-up, patients were further divided into acute exacerbation (n = 104) and non-acute exacerbation (n = 121) groups according to the occurrence of acute exacerbation (patients' clinical symptoms deteriorated beyond the daily range in a short period of time and needed to change treatment). The changes of serum IL-33, TSLP and EOS levels in patients with different treatment effects and exacerbation risks were detected. The receiver operating characteristic (ROC) curve was used to analyze the predictive value of serum IL-33, TSLP and EOS alone and in combination for the treatment effect and malignant risk of COPD. Multivariate Logistic regression was used to analyze the influencing factors of ineffective treatment and exacerbation in COPD patients.

Results: Patients with COPD showed higher serum IL-33 and EOS levels and lower TSLP compared to the control group ($P < 0.05$). Compared with the effective group, patients in the ineffective group showed significantly higher serum levels of IL-33 and EOS and a significantly lower level of TSLP ($P < 0.05$). Patients in the acute exacerbation group showed higher serum levels of IL-33 and EOS and a lower level of TSLP than the non-acute exacerbation group ($P < 0.05$). The area under the curve (AUC) of serum IL-33, TSLP, and EOS in detecting the treatment effect of COPD was 0.803, 0.778, and 0.870, respectively. The AUC of combined detection was 0.938, suggesting that the combined detection had a higher predictive value. The AUC for IL-33, TSLP, and EOS were 0.679, 0.716, and 0.891, respectively, with a combined detection AUC of 0.931. For the assessment of COPD exacerbation risk, the combined detection of three indicators had higher clinical value. Multivariate Logistic regression analysis showed that after adjusting for confounding factors such as age, sex, smoking status, and basic pulmonary function, elevated serum IL-33 and EOS levels were still independent risk factors for treatment failure ($P < 0.05$), while elevated TSLP level was a protective factor ($P < 0.05$). In terms of predicting the risk of acute exacerbation, the elevated EOS level was an independent risk factor ($P < 0.001$), and the independent predictive value of IL-33 and TSLP did not reach statistical significance ($P > 0.05$).

Conclusion: The levels of IL-33 and EOS were significantly increased, and the level of TSLP was significantly decreased in patients with effective treatment and acute exacerbation of COPD. The above indicators could be used as important indicators to predict the treatment effect and malignant risk of COPD, and the combined detection had high sensitivity and specificity.

Keywords: Chronic obstructive pulmonary disease; Eosinophils; IL-33; Risk of exacerbation; TSLP; Treatment effect.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: This study was approved by The Ethics Committee of Beijing Tongren Hospital, Capital Medical University.

Informed consent was obtained from participants for the participation in the study and all methods were carried out in accordance with relevant guidelines and regulations. Consent for publication: Not applicable. Competing interests: The authors declare no competing interests.

- 26 references

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18

BMJ

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. 2026 Jan 28:392:s183.

doi: 10.1136/bmj.s183.

COPD: New targeted treatment is approved by NICE

Jacqui Wise [1]

Affiliations Expand

- **PMID: 41605526**

- **DOI: 10.1136/bmj.s183**

No abstract available

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Review

Clin Chim Acta

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. 2026 Jan 26:584:120868.

doi: 10.1016/j.cca.2026.120868. Online ahead of print.

Multi-omics biomarker detection in smoking induced COPD

Rahamat Unissa Syed [1], Mohammed Khaled Bin Break [2], Rihab Akasha [3], Nancy Mohammad Elafandy [3], Sally Hassan Abobaker [4], Amna Abakar Suleiman Khalifa [3], Nayla Ahmed Mohammed Aboshouk [3], Afrah Nashmi Alghaythi [5], Lama Abdullah Altwalah [5], Rawabi Mohammed Menwer Aldhafeeri [5], Mohd Sajjad Ahmad Khan [6], Gaurav Gupta [7]

Affiliations Expand

- PMID: 41605376

- DOI: 10.1016/j.cca.2026.120868

Abstract

Chronic obstructive pulmonary disease (COPD) is marked by heterogeneity, and traditional spirometric biomarkers fall short of fully capturing its underlying molecular complexity. This review discusses recent developments in multi-omics profiling, such as transcriptomics, proteomics, metabolomics, and epigenomics/acetylomics, to define biologically meaningful COPD endotypes and enhance their clinical categorization. Reproducible circulating protein markers identified in proteomic studies include surfactant protein D (SP-D), club cell secretory protein (CC16), fibrinogen, and inflammatory cytokines, which predict disease severity, risk of exacerbation, and mortality. Further evidence of dysregulated histone/protein acetylation and other post-translational modifications in chronic inflammation, steroid resistance, and disease progression is provided by epigenomic studies (such as DNA methylation, non-coding RNAs, and chromatin remodeling) and acetylomic analyses. Notably, integrative multi-omics solutions exhibit better outcomes than single-biomarker solutions by allowing the identification of molecular endotypes that are more likely to accommodate clinical heterogeneity. Nevertheless, it is significantly constrained by cohort and platform heterogeneity, including factors such as smoking exposure, age, comorbidities, treatment, and sample processing methods. Overall, the existing evidence highlights the importance of multi-omics integration in the further development of precision diagnostics and individualized management of COPD, bridging the gap between molecular pathology and clinical decision-making.

Keywords: Biomarkers; COPD; Diagnostics; Multi-omics; Precision medicine; Proteomics; Smoking.

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

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Observational Study

BMJ Open Respir Res

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. 2026 Jan 27;13(1):e003814.

doi: 10.1136/bmjresp-2025-003814.

COPD and vitamin K antagonism: a cohort study of 1-year all-cause mortality and risk of hospitalisation due to a severe exacerbation

Bård-Emil Vang Vang Gundersen [1], Anna Kubel Vognsen [2], Josefin Eklöf [3], Pradeesh Sivapalan [4 5], Allan Linneberg [5 6], Tor Biering-Sørensen [5 7], Jens-Ulrik Stæhr Jensen [8 9]

Affiliations Expand

- PMID: 41592866
- PMCID: PMC12853482
- DOI: 10.1136/bmjresp-2025-003814

Abstract

Background: Vitamin K, through its role in the vitamin K-dependent activation of matrix-GLA-protein, has been suggested to have a lung-protective effect, though the mechanism is unknown. Chronic obstructive pulmonary disease (COPD) patients treated with vitamin K antagonists (VKAs) may lose this protection, thereby increasing their risk of an acute exacerbation of COPD (AE-COPD) and death. We examined this hypothesis in a nationwide cohort of COPD patients treated with VKA. COPD patients treated with direct oral anticoagulant (DOAC) served as controls.

Objective: To assess the association between VKA treatment and the 1-year risk of AE-COPD-related hospitalisation and all-cause mortality in patients with COPD and atrial fibrillation or flutter.

Methods: This nationwide, observational, register-based cohort study applied Cox proportional hazard regression models, adjusting for established confounders. HRs with 95% CIs were reported. Sensitivity analyses included complete-case analysis and inverse probability of treatment weighting (IPTW).

Results: A total of 7091 COPD patients were included, of whom 3455 (48.7%) received VKA treatment. A total of 1955 patients reached the endpoint, including 820 in the VKA-treated group. In the primary analysis, VKA treatment was associated with a lower risk of AE-COPD hospitalisation or death (adjusted HR of 0.87 (95% CI 0.78 to 0.98), p=0.024). The association remained in the sensitivity analyses but lost statistical significance. Complete-case analysis: adjusted HR of 0.88 (CI 0.76 to 1.01), p=0.079. IPTW analysis: HR of 0.85 (CI 0.72 to 1.01), p=0.070.

Interpretation: VKA treatment was associated with a reduction in risk of AE-COPD hospitalisation and mortality compared to DOAC. Sensitivity analysis was consistent with the main analysis; however, it did not reach statistical significance.

Keywords: COPD Exacerbations; COPD Pharmacology; COPD epidemiology; Pulmonary Disease, Chronic Obstructive.

Conflict of interest statement

Competing interests: TB-S discloses personal fees outside the submitted work. All other authors have no conflict of interests to disclose.

- 22 references
- 3 figures

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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NEJM Evid

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. 2026 Feb;5(2):EVIDoa2500051.

doi: 10.1056/EVIDoa2500051. Epub 2026 Jan 27.

A Quantitative Lung Mucin Score to Identify Chronic Bronchitis

Mehmet Kesimer [1], Giorgia Radicioni [1], Amina A Ford [1], Agathe Ceppe [1], Neil E Alexis [2], R Graham Barr [3 4], Eugene R Bleecker [5], Stephanie A Christenson [6], Christopher B Cooper [7], MeiLan K Han [8], Nadia N Hansel [9], Annette T Hastie [10], Eric A Hoffman [11], Richard E Kanner [12], Fernando J Martinez [13], Robert Paine [12], Prescott G Woodruff [6], Richard C Boucher [1]

Affiliations Expand

- PMID: 41590989

- DOI: 10.1056/EVIDoa2500051

Abstract

Background: We previously demonstrated that sputum total mucin concentration is an objective marker for chronic bronchitis (CB). This current study introduces a novel Mucin Quantitative Score (MUCQ) that combines total mucin concentration and mucin composition to improve the assessment of risk, onset of clinically diagnosed disease, and progression of muco-obstructive lung diseases.

Methods: Patients from the SPIROMICS (SubPopulations and InteRmediate Outcome Measures in COPD Study) cohort were classified as having CB, or not, based on clinical questionnaires. Using the measured total mucin, MUC5AC, and MUC5B concentrations in sputum samples, we calculated MUCQ as [Total mucin]×([MUC5AC]÷[MUC5B])÷100 μg/ml, which is a unitless, weighted concentration score. Our primary outcome was the net reclassification of patients with a diagnosis of CB, or not, based on total mucin concentrations in their sputum compared with using the MUCQ score. Participants were first classified as CB-positive or -negative using a total mucin concentration threshold of 2306 μg/ml, then reclassified using the MUCQ threshold of 4.30. Associated z statistics and a P value for the primary outcome are reported.

Results: Among 164 patients in the SPIROMICS cohort with clinically defined CB, using the MUCQ score up-classified 18 patients who were currently smoking to a diagnosis of CB and down-classified 5 patients who were currently smoking and 3 control participants who had never smoked, compared with the classification of CB

was based on total mucin concentrations alone (P=0.001). In addition, MUCQ correlated with other clinical and pathological indices of chronic airway disease and airway obstruction.

Conclusions: The MUCQ metric was superior in distinguishing patients with CB compared to a total mucin concentration. Trials are needed to ascertain the prospective use of MUCQ metrics in research and clinical settings for assessment, management, and tracking therapeutic responses in CB and potentially other muco-obstructive conditions. (Funded by the National Institutes of Health and others.).

Supplementary info

MeSH terms, SubstancesExpand

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Cite

22

Observational Study

J Cachexia Sarcopenia Muscle

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. 2026 Feb;17(1):e70178.

doi: 10.1002/jcsm.70178.

Pulmonary Obstruction and Age, Not Activity, Associate With Muscle Oxidative Impairment in Smokers With and Without COPD

Alessandra Adami [1], Fenghai Duan [2], Robert A Calmelat [3 4], Zeyu Chen [2], Richard Casaburi [3 4], Harry B Rossiter [3 4]

Affiliations Expand

- PMID: 41555626
- PMCID: PMC12816763
- DOI: 10.1002/jcsm.70178

Abstract

Background: Low muscle oxidative capacity is an extrapulmonary manifestation of chronic obstructive pulmonary disease (COPD) with unclear aetiology. We sought to characterize locomotor muscle oxidative capacity in never smokers and ever smokers with and without COPD and determine clinical and behavioural features associated with low muscle oxidative capacity.

Methods: Two hundred forty-three adults enrolled in the Muscle Health Study, an observational study ancillary to COPDGene. Gastrocnemius oxidative capacity was measured by near-infrared spectroscopy from the muscle oxygen consumption recovery rate constant (k). Physical activity was measured by accelerometry (vector magnitude units [VMU]/min). Pulmonary assessments included spirometry (FEV_1%predicted), diffusing capacity (DL_{CO}) and quantitative chest computed tomography (CT). Eighty-seven variables related to COPD features were considered. Variables selected by univariate analysis of log-transformed k with $p \leq 0.20$ and filtered by machine learning were entered into multivariable linear regression to determine association with k.

Results: Two hundred forty-one (53.1% female; 45.6% African American; 64 ± 10 years old) participants were allocated to analysis. FEV_1%predicted, DL_{CO}, CT, pack-years, age and VMU/min were among 24 variables selected by univariate analysis. After machine learning filtering on 162 (67%) cases with complete data, 11 variables were included in multivariable analysis. Only FEV_1%predicted, age and race were significantly associated with k ($R^2 = 0.26$). Model coefficients equate a 10% lower FEV_1%predicted to a 4.4% lower k or 10 years of aging to a 9.7% lower k. In 118 cases with CT available, FEV_1%predicted and age remained associated with k ($R^2 = 0.24$). Physical activity was not retained in any model.

Conclusions: Physical activity or radiographic COPD manifestations were not significantly associated with muscle oxidative impairment. Across never smokers and ever smokers with and without COPD, locomotor muscle oxidative capacity was positively associated with FEV_1%predicted and negatively associated with age.

Keywords: PRISm; computed tomography; near-infrared spectroscopy; physical activity; smokers; triaxial accelerometry.

Conflict of interest statement

Alessandra Adami is supported by National Health Institute Grant R01HL151452. Fenghai Duan reports previously receiving consulting fees from EarlyDiagnostics Inc. and Medtronic, outside of the submitted work. Richard Casaburi reports consulting fees from Inogen. Harry Rossiter is supported by grants from the National Health Institute (R01HL151452, R01HL166850, R01HL153460, P50HD098593 and R01DK122767) and the Tobacco Related Disease Research Program (T31IP1666). He reports consulting fees from the National Health Institute RECOVER-ENERGIZE working group (1OT2HL156812) and is involved in contracted clinical research with United Therapeutics, Genentech, Regeneron, Respira, Mezzion and Intervene Immune. He is a visiting professor at the University of Leeds, UK, and the University of Pavia, Italy. All other authors have nothing to disclose.

- 48 references
- 3 figures

Supplementary info

Publication types, MeSH terms, Grants and fundingExpand

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23

Thorac Res Pract

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. 2026 Jan 30;27(1):3-10.

doi: 10.4274/ThoracResPract.2025.2025-6-1. Epub 2026 Jan 15.

Excessive Short-acting Beta-agonists Prescriptions in COPD Treated with Triple Inhaler Therapy: A Possible Marker of Frequent Exacerbations. A Retrospective Cohort Study

Bruno Sposato [1], Leonardo Gianluca Lacerenza [2], Elisa Petrucci [2], Alberto Ricci [3], Alberto Cresti [4], Pasquale Baratta [4], Andrea Serafini [5], Claudio Micheletto [6], Maurizio Di Tomassi [7], Antonio Perrella [1], Valerio Alonzi [1], Sara Croce [1], Marco Scalese [8]

Affiliations Expand

- PMID: 41536185

- DOI: 10.4274/ThoracResPract.2025.2025-6-1

Free article

Abstract

Objective: Short-acting β2-agonists (SABA) are used both in asthma and in chronic obstructive pulmonary disease (COPD); SABA use appears to be associated with an increased risk of exacerbations. We evaluated whether COPD patients receiving regular treatment with single-inhaler triple therapy (SITT) used SABA and whether they experienced more exacerbations.

Material and methods: Our single-center cohort study retrospectively included COPD patients who had been on SITT for 12 months and who were prescribed >7 inhaled corticosteroids/long-acting β2-agonists/long-acting muscarinic antagonist packages. Patients were divided into three groups based on the number of SABA boxes they received during the SITT year: no SABA (0 boxes/year), 1-2 boxes/year, and ≥3 boxes/year. Oral corticosteroids (OC) and antibiotic packs during the SITT year were considered outcomes for the SABA groups.

Results: Five thousand one hundred and seven subjects were recruited, and 1,444 (28.3%) had at least one SABA prescription. Adherence to SITT treatment was similar across the three SABA groups: 10.7±2.8, 10.6±2.8, and 10.9±3.9 packages/year in the 0, 1-2, and ≥3 SABA groups, respectively. The number of OC/antibiotic packages increased progressively across SABA groups from 0 to 1-2 and ≥3 ($P < 0.0001$). When we applied logistic models, we also observed a progressively higher risk of taking OC and antibiotics among subjects who had taken 1-2 packs of SABA [odds ratio (OR): 2.299 (1.878-2.813) and 2.034 (1.621-2.551), respectively; $P < 0.0001$], and among those who had taken ≥3 packs of SABA [OR: 3.472 (2.871-4.200) and 2.714 (2.192-3.362), respectively; $P < 0.0001$].

Conclusion: A significant number of subjects were prescribed SABA despite SITT therapy. A relationship between SABA packages and the number of exacerbations, assessed by OC/antibiotic prescriptions, was observed. Excessive SABA use or prescription may indicate frequent exacerbations in patients with COPD despite receiving maximal inhaled therapy.

Keywords: COPD; SABA; antibiotics; exacerbations; oral corticosteroids; real-life; triple therapy.

Conflict of interest statement

No conflict of interest was declared by the authors.

. 2026 Feb;23(2):123-149.

doi: 10.1038/s41423-025-01380-w. Epub 2026 Jan 13.

Neutrophils as critical orchestrators of chronic inflammation

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Affiliations Expand

- PMID: 41530536
- PMCID: PMC12858905
- DOI: 10.1038/s41423-025-01380-w

Abstract

Neutrophils are the first key effector innate immune cells recruited toward inflammatory sites. Through the release of neutrophilic extracellular traps (NETs), the production of reactive oxygen species (ROS), degranulation and phagocytosis, neutrophils play a central role in the rapid elimination of invading pathogens. Recently, increasing attention has been given to the role of neutrophils in chronic inflammation, challenging the dichotomy between innate and adaptive immune responses. In chronic inflammatory conditions, neutrophils generally display a hyperinflammatory phenotype via dysregulated pathogen defense mechanisms. Excessive neutrophil activation may result in aberrant cell death, uncontrolled oxidative burst or NET formation and sustained release of inflammatory mediators such as proteases and inflammatory cytokines. Therefore, neutrophils contribute to the development of a sustained inflammatory environment and cause collateral tissue damage. In addition to their direct inflammatory effects, neutrophils further orchestrate inflammation and tissue remodeling by actively engaging in crosstalk with other cells within the immune microenvironment, such as endothelial cells, monocytes, platelets, and T and B cells. This review summarizes the current knowledge of the emerging role of neutrophils in the context of chronic inflammation. The key characteristics of neutrophils and their interactions with distinct cell types are discussed within the initial part of the review, whereas the second part focuses on their contributions to the pathophysiology of immune-driven diseases, including rheumatoid arthritis, atherosclerosis, inflammatory bowel disease, systemic lupus erythematosus, chronic obstructive pulmonary disease, and fibrotic disorders. Increasing knowledge on neutrophil behavior in the context of chronic inflammation may offer novel insights into disease pathology and, potentially, the identification of novel therapeutic targets.

Keywords: Chronic inflammation; Innate immune response; Neutrophil.

Conflict of interest statement

Competing interests: The authors have nothing to disclose. PP is the editorial board member of Cellular & Molecular Immunology, but he has not been involved in the peer review or the decision-making of the article.

- 306 references
- 3 figures

Supplementary info

Publication types, MeSH terms, Grants and fundingExpand

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25

Chronic Obstr Pulm Dis

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. 2026 Jan 30;13(1):73-83.

doi: 10.15326/jcopdf.2025.0673.

Determinants of Medication Nonadherence Among Diverse Adults With Chronic Obstructive Pulmonary Disease

Stephanie L LaBedz [1], Ebere M Okpara [2], Archit V Potharazu [3], Min J Joo [1 4], Valerie G Press [5], Lisa K Sharp [6]

Affiliations Expand

- PMID: 41528163

- DOI: 10.15326/jcopdf.2025.0673

Free article

Abstract

Introduction: High rates of medication nonadherence contribute to poor outcomes in chronic obstructive pulmonary disease (COPD), but the mechanisms driving nonadherence remain poorly understood.

Methods: We conducted qualitative semistructured interviews to evaluate barriers and facilitators of inhaler adherence. The Capability, Opportunity, and Motivation model of Behavior informed the semistructured interview guide and analysis.

Results: Short-term lapses in inhaler use commonly resulted from inhaler unaffordability, not possessing the inhaler, forgetfulness, and geographical or logistical issues accessing health care services. Participants overcame these barriers by requesting more affordable inhalers, keeping inhalers in strategic locations, routinizing inhaler use, utilizing reminders or cues, having extra inhalers, and leaning on social support. Nearly half of participants reported using their inhalers differently than prescribed because of insufficient knowledge, skills, or complex motivational barriers. Participants who reported using an incorrect dosage schedule or poor inhaler technique were unaware of their inhaler misuse. Although participants collectively saw some benefit to using inhalers, many were intentionally nonadherent due to conflicting motivational factors. Common motivational barriers to adherence included beliefs that inhalers were not always necessary, nonadherence carried little risk, their self-identity conflicted with having COPD, and emotional distress related to numerous medications. There were strong interactions between reinforcement and other motivational factors that created feedback loops which strengthened or weakened adherence.

Conclusions: Barriers to medication adherence were common and varied by individual. Knowledge and skills barriers are well-suited for interventions that utilize instruction or enablement, whereas motivational barriers could be addressed through reinforcement or interventions tailored at the individual level.

Keywords: COPD; inhalation therapy; maintenance therapy; medication adherence; race.

Supplementary info

Grants and fundingExpand

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Cite

26

Chronic Obstr Pulm Dis

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. 2026 Jan 30;13(1):49-58.

doi: 10.15326/jcopdf.2025.0665.

The Impact of Treated and Untreated COPD Exacerbations on Long-Term Health-Related Quality of Life

Nicholas Wang [1], Emily R Locke [2], Tracy Simpson [3 4], Erik R Swensen [5], Jeffrey Edelman [1 2], Ranak B Trivedi [6 7], Vincent S Fan [1 2]

Affiliations Expand

- PMID: 41524653

- DOI: 10.15326/jcopdf.2025.0665

Free article

Abstract

Objective: Untreated chronic obstructive pulmonary disease (COPD) exacerbations are associated with short-term changes in lung function and decreased health-related quality of life (HRQoL). This study aims to examine the association between untreated exacerbations and long-term HRQoL, as well as differences in characteristics between treated and untreated exacerbations.

Methods: A secondary analysis was performed using data from a prospective observational cohort study of participants with COPD. Participants' HRQoL was measured using the Chronic Respiratory Questionnaire (CRQ) at baseline and at 12 months. Exacerbations were ascertained with phone calls every 2 weeks, with detailed information regarding exacerbations obtained by research staff. Exacerbations were considered treated if participants took prednisone or antibiotics. Mixed models were used to analyze differences in treated and untreated exacerbation characteristics. Linear and logistic regression models were used to examine the association between the number of treated and untreated exacerbations and a change in CRQ at 12 months.

Results: Among 410 participants, 355 experienced 1097 exacerbations during the 12-month study period, of which 460 (42%) were treated. Treated exacerbations were more severe and lasted longer (25.5 versus 19.9 days, $p<0.001$) compared to untreated exacerbations. Each additional untreated exacerbation experienced was associated with a significant worsening of long-term HRQoL scores compared to those without exacerbations: CRQ dyspnea (adjusted b= -0.10; 95% confidence interval -0.18 to -0.03), CRQ fatigue (b= -0.07; -0.14 to -0.01), and CRQ emotional function (b= -0.08; -0.14 to -0.02).

Conclusion: Untreated COPD exacerbations occurred frequently and were associated with worse long-term HRQoL, despite being shorter and less severe than treated exacerbations.

Keywords: acute exacerbation of COPD; health-related quality of life; quality of life.

Supplementary info

Grants and fundingExpand

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Cite

27

Clin Radiol

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. 2026 Feb:93:107215.

doi: 10.1016/j.crad.2025.107215. Epub 2025 Dec 13.

Lung computed tomography (CT) imaging findings of chronic obstructive pulmonary disease patients with impaired sleep quality

P Zhang [1], T Li [1], Q Song [1], C Liu [1], Y Zeng [1], S Chen [2], P Chen [3], L Lin [4]

Affiliations Expand

- PMID: 41520629

- DOI: 10.1016/j.crad.2025.107215

Free article

Abstract

Aim: To investigate the computed tomography (CT) imaging characteristics (including diaphragm thickness [DT], pulmonary artery to aorta ratio [dPA/A], and airway indices) associated with impaired sleep quality in chronic obstructive pulmonary disease (COPD) patients.

Materials and methods: This cross-sectional study enrolled 190 COPD patients (December 2021-September 2024). Baseline data included demographics, COPD Assessment Test (CAT) scores, pulmonary function, exacerbation history, and CT parameters. Impaired sleep quality was defined as Pittsburgh Sleep Quality Index (PSQI) score ≥5, grouping patients accordingly.

Results: Patients (mean age 64.8 years; 93.1% male) included 56% with impaired sleep quality (linked to higher CAT scores and lower FEV_1/FVC). The impaired sleep group had smaller airway lumen area (LA), mean inner/outer diameters (mID/mOD), and DT; plus higher wall area percentage (WA%) and dPA/A. DT, WA%, and dPA/A

were independent risk factors for impaired sleep; dPA/A had the highest ROC AUC (0.688), followed by CAT (0.667), DT (0.632), and WA% (0.602).

Conclusion: Impaired sleep quality in COPD may relate to airway narrowing, airway wall thickening, reduced lumen diameter, and enlarged dPA/A.

Conflict of interest statement

Conflict of interest The authors declare no conflict of interest.

Supplementary info

MeSH termsExpand

Full text links

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Cite

28

Exp Ther Med

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. 2025 Dec 22;31(2):57.

doi: 10.3892/etm.2025.13052. eCollection 2026 Feb.

Association of thrombocytopenia with deep vein thrombosis in patients with acute exacerbations of chronic obstructive pulmonary disease: A retrospective study

Yufang Guo [1 2], Li Wang [2], Zexu Wang [2], Yongjun Wang [2], Qiuqi Lin [2], Xiuwei Zhang [2], Liangquan Wu [2], Bing Wan [2]

Affiliations Expand

- PMID: 41496821
- PMCID: PMC12766664
- DOI: 10.3892/etm.2025.13052

Abstract

Acute exacerbations of chronic obstructive pulmonary disease (AE-COPD) are often accompanied by systemic inflammatory responses and can lead to coagulation disorders and thrombotic complications, thereby increasing hospitalization rates and mortality. Platelets play a critical role not only in hemostasis and thrombosis, but also in immunity and inflammation. The aim of the present study was to explore the associations among thrombocytopenia, infection severity and deep vein thrombosis (DVT) formation in patients with AE-COPD, and to develop a predictive model based on platelet-related parameters. The clinical data from 338 patients with AE-COPD who were hospitalized in the Department of Respiratory and Critical Care Medicine of The Affiliated Jiangning Hospital of Nanjing Medical University (Nanjing, China) between January 2021 and December 2023 were retrospectively evaluated. Demographic characteristics, medical history, comorbidities, laboratory test results, lower limb venous ultrasound findings, chest computed tomography scans and mechanical ventilation treatment data were collected. Statistical analyses were performed using SPSS version 26.0, GraphPad Prism version 9.0 and R version 4.1.3. Among the 338 patients with AE-COPD, 72.4% were male and the mean age was 75.60±7.42 years. The thrombocytopenia group (<150x10^9 platelets/l) had a significantly lower white blood cell count, neutrophil count, monocyte count, platelet-to-lymphocyte ratio (PLR) and plateletcrit compared with the normal platelet group (≥150 to <300x10^9 platelets/l). Among the 338 patients with AE-COPD, 5 patients in the thrombocytopenia group had DVT, while 29 patients in the normal platelet group had DVT. The incidence of DVT during hospitalization was significantly lower in the thrombocytopenia group than that in the normal platelet group (4.7 vs. 12.5%). In a specific subgroup analysis of patients who were male, >70 years old, and presented with both cardiovascular diseases and concurrent pulmonary infection, the DVT risk was found to be lower in the thrombocytopenia group. Multivariate logistic regression analysis revealed that PLR and D-dimer were independent risk factors for DVT formation during hospitalization in patients with AE-COPD. In conclusion, thrombocytopenia was associated with more severe lung infections in patients with AE-COPD. A model incorporating PLR and D-dimer showed diagnostic efficacy for predicting DVT in hospitalized patients with AE-COPD.

Keywords: D-dimer; chronic obstructive pulmonary disease; deep vein thrombosis; platelet-to-lymphocyte ratio.

Conflict of interest statement

The authors declare that they have no competing interests.

- 34 references
- 4 figures

Full text links

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Review

Am J Physiol Lung Cell Mol Physiol

. 2026 Feb 1;330(2):L159-L168.

doi: 10.1152/ajplung.00060.2025. Epub 2025 Dec 31.

The role of estrogen receptors in lung diseases

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Affiliations Expand

- PMID: 41474472

- DOI: 10.1152/ajplung.00060.2025

Free article

Abstract

Lung diseases are major global causes of morbidity and mortality, yet the molecular basis of their observed sex differences remains unclear. Beyond their roles in reproductive biology, estrogens are central regulators of pulmonary homeostasis through three principal receptors: *1*) estrogen receptor α (ERα), *2*) estrogen receptor β (ERβ), and *3*) the G-protein-coupled estrogen receptor 1 (GPER1). These receptors are widely expressed across the airway epithelium, smooth muscle, fibroblasts, lung endothelium, and immune cells, where they integrate slow, genomic transcriptional programs and rapid, membrane-initiated signaling cascades to regulate inflammation, oxidative balance, and tissue remodeling. ERβ, often the dominant pulmonary isoform, tends to preserve extracellular matrix integrity and attenuate maladaptive inflammation, whereas ERα frequently amplifies proinflammatory transcriptional programs. GPER1 mediates rapid nongenomic responses that modulate vascular tone, airway smooth-muscle reactivity, and innate immune function, and is both an important regulator of allergic inflammation and a modulator of oncogenic signaling. Together, estrogen receptor subtype balance, subcellular localization, and ligand context determine whether estrogenic signaling is protective or pathogenic. Clinically, this framework helps explain life course and sex differences, such as postpubertal female predominance of asthma, menstrual and pregnancy-related exacerbations, and enhanced chronic obstructive pulmonary disease (COPD) susceptibility in women at lower tobacco exposure. In this review, we synthesize mechanistic and clinical evidence across lung diseases; delineate areas where data remain incomplete or contradictory; and outline opportunities for

experimental and translational innovation. These include development of receptor-selective or biased ligands, inhaled or localized delivery, and implementation of sex-aware clinical trial designs to leverage estrogen-receptor biology for precision respiratory therapeutics.

Keywords: COPD; asthma; estrogen receptors; lung cancer; sex differences.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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Cite

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Published Erratum

Am J Cardiol

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. 2026 Feb 1:260:53.

doi: 10.1016/j.amjcard.2025.12.001. Epub 2025 Dec 23.

Corrigendum to 'Clinical Characteristics and Prognosis of Acute Heart Failure in Patients with Chronic Obstructive Pulmonary Disease' [The American Journal of Cardiology 257(2025) Pages 101-109]

Han Xia [1], Junlei Li [1], Jianzeng Dong [2]

Affiliations Expand

- **PMID: 41448245**
- **DOI: 10.1016/j.amjcard.2025.12.001**

No abstract available

Erratum for

- **Clinical Characteristics and Prognosis of Acute Heart Failure in Patients with Chronic Obstructive Pulmonary Disease.**

Xia H, Li J, Dong J.Am J Cardiol. 2025 Dec 15;257:101-109. doi: 10.1016/j.amjcard.2025.08.020. Epub 2025 Aug 16.PMID: 40819680

Supplementary info

Publication typesExpand

Full text links

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Cite

31

Chronic Obstr Pulm Dis

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. 2026 Jan 30;13(1):1-7.

doi: 10.15326/jcopdf.2025.0689.

The Long-Term Effects of Cost-Related Nonadherence on COPD Outcomes and Progression in the COPDGene Study Cohort

Rajat Suri [1], Amy Non [2], Jacob Bailey [1], Doug Conrad [1]

Affiliations Expand

- PMID: 41378823

- DOI: 10.15326/jcopdf.2025.0689

Free article

Abstract

Background: Chronic obstructive pulmonary disease (COPD) is a progressive disease with a high prevalence and cost burden on the health care system. Overall, adherence to prescribed therapies is low and associated with worse outcomes.

Objective: Cost-related nonadherence (CRN) is a type of nonadherence that could be addressed through policy. We evaluated the long-term association of CRN on COPD outcomes in a well-profiled cohort.

Methods: We identified 2521 participants with baseline COPD who answered the social and economic questionnaire in the COPD Genetic Epidemiology study cohort. Of these, 408 participants endorsed experiencing CRN. Multivariable

regression models were utilized to assess the association of experiencing CRN and COPD outcomes including functional status, health status, and progression of disease.

Results: Experiencing CRN is associated with worse functional status by the 6-minute walk distance, symptom burden by the COPD Assessment Test score, and health status by the St George's Respiratory Questionnaire. Longitudinal analysis revealed an association of CRN with faster lung function decline and an increased risk of COPD exacerbations.

Conclusion: Policy changes to address out-of-pocket medication costs may improve COPD outcomes and potentially lead to long-term cost savings.

Keywords: COPD; adherence; health outcomes; maintenance therapy.

Supplementary info

Grants and fundingExpand

Full text links

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Cite

32

Int J Infect Dis

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. 2026 Feb:163:108223.

doi: 10.1016/j.ijid.2025.108223. Epub 2025 Nov 13.

Mortality following recovery from COVID-19 hospitalization: A long-term cohort study

Wiessam Abu Ahmad [1], Yael Wolff-Sagy [2], Erez Battat [2], Ronen Arbel [3], Gil Lavie [4]

Affiliations Expand

- PMID: 41241136

- DOI: 10.1016/j.ijid.2025.108223

Free article

Abstract

Objectives: The long-term mortality risk among patients who survive the acute phase of COVID-19 remains uncertain. As the virus continues to resurge globally and new variants such as NB.1.8.1 and LP.8.1 circulate widely, understanding post-acute mortality risk is increasingly important for clinical management. We therefore investigated the association between COVID-19 hospitalization and all-cause mortality up to 3.5 years in these patients.

Methods: The study included Clalit Health Services members aged ≥40 years. Hospitalized individuals were those admitted for COVID-19 between March 2020 and December 2021. Uninfected individuals were matched 1:1 by birth year, sex, and Charlson comorbidity score. Follow-up began 30 days after discharge from the last COVID-19 hospitalization and ended on 30 September 2023, or upon all-cause mortality, whichever occurred first. Data were analyzed using Kaplan-Meier curves and multivariable frailty-Cox regression models. We pre-specified age strata (40-64 years and ≥65 years).

Results: Among 16,445 matched pairs, all-cause mortality was higher in previously hospitalized patients than in uninfected controls (4.91 vs 2.63 per 1000 person-months) with an adjusted hazard ratio of 1.69 (1.57-1.83). Patients aged 40-64 years exhibited a greater relative risk (2.31 [1.79-2.98]) than those aged ≥65 years (1.63 [1.50-1.76]). Cancer, diabetes, congestive heart failure, renal disease, chronic obstructive pulmonary disease, and dementia were all associated with higher post-discharge mortality. Receiving ≥2 doses of COVID-19 vaccine tended to lower mortality risk, particularly in the 40-64 years age group.

Conclusions: The study demonstrates that survivors of COVID-19 hospitalization face a sustained elevation in all-cause mortality and underscore the need for targeted long-term follow-up and preventive strategies.

Keywords: Age stratification; COVID-19; Hospitalization survivors; Long-term mortality; Survival bias; Vaccination.

Conflict of interest statement

Declaration of competing interest The authors have no competing interests to declare.

Supplementary info

MeSH termsExpand

Full text links

Comparative Study

Am J Emerg Med

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. 2026 Feb:100:12-17.

doi: 10.1016/j.ajem.2025.11.009. Epub 2025 Nov 10.

Comparison of procalcitonin, C-reactive protein and neutrophil/lymphocyte ratio in prediction of noninvasive mechanical ventilation failure in patients admitted to the emergency department with COPD exacerbation

Hasan Sefa Çatal [1], Nurettin Özgür Doğan [2], İbrahim Ulaş Özturan [1], Murat Pekdemir [1], Elif Yaka [1], Serkan Yılmaz [1]

Affiliations Expand

• PMID: 41237671

• DOI: 10.1016/j.ajem.2025.11.009

Abstract

Background: Non-invasive mechanical ventilation (NIMV) represents a cornerstone therapy for acute chronic obstructive pulmonary disease (COPD) exacerbation in emergency department (ED) settings.

Objectives: Clinical predictors of NIMV response remain poorly characterized. This study sought to evaluate and compare the predictive capacity of different biomarkers for identifying patients at risk of NIMV failure during acute exacerbations.

Methods: This prospective cohort study was conducted in the ED of a tertiary center from March 2023 to December 2024. Consecutive patients presenting with acute COPD exacerbations and meeting criteria for NIMV were enrolled. The primary outcome (NIMV failure) was evaluated during the initial 2-h monitoring period. The predictive performance of C-reactive protein (CRP) and procalcitonin levels, and neutrophil-to-lymphocyte ratio (NLR) were assessed using receiver operating characteristic (ROC) curve analysis. Areas under the curve (AUC) were compared using the de-Long method.

Results: Among 151 enrolled patients, 73 (48.3 %) experienced NIMV failure, with an associated mortality rate of 30.1 %. For NIMV failure, ROC analysis demonstrated superior predictive performance for NLR (AUC = 0.804, 95 % confidence interval [CI]:0.734-0.875) compared to CRP (AUC = 0.680, 95 % CI:0.594-0.765) and procalcitonin (AUC = 0.682, 95 % CI:0.596-0.767). ROC analysis identified an optimal

NLR cutoff of 5.8 for predicting NIMV failure, demonstrating 79.5 % sensitivity and 70.5 % specificity. When integrated with the HACOR score, this NLR threshold showed enhanced specificity with reduced sensitivity.

Conclusion: The present study demonstrated that NLR was the strongest predictor of NIMV failure in the ED compared to CRP or procalcitonin. The combination of biomarkers with the HACOR score significantly enhanced prognostic accuracy.

Keywords: C-reactive protein; Chronic obstructive pulmonary disease; Emergency department (MeSH database); Exacerbation; Noninvasive ventilation; Procalcitonin.

Conflict of interest statement

Declaration of competing interest The authors have no commercial associations or sources of support that might pose a conflict of interest.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

Cite

34

Ann Vasc Surg

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. 2026 Feb:123:593-607.

doi: 10.1016/j.avsg.2025.09.049. Epub 2025 Oct 13.

Trends in Mortality-Related to Peripheral Artery Disease and Chronic Obstructive Pulmonary Disease Comorbidity in the United States (1999-2023)

Neha Waseem [1], Aleena Ihtasham [2], Waleed Tariq [1], Darakhshan Zareen Khan [3], Shaheer Bin Shafiq [4], Bushra Ubaid [4], Iftikhar Khan [1], Muhammad Ahmad Nadeem [5], Zoya Aamir [4], Zainab Nouman [6], Hafiz Muhammad Haris [2], Rida Noor [7], Muhammad Faraz Shaikh [4], Matia Fawad Memon [8], Zainab Zaheer Malik [1], Abu Baker Sheikh [9], Raheel Ahmed [10]

Affiliations Expand

- PMID: 41093102

- DOI: 10.1016/j.avsg.2025.09.049

Free article

Abstract

Background: Peripheral artery disease (PAD) and chronic obstructive pulmonary disease (COPD) often coexist, contributing to elevated mortality due to shared etiologic factors such as tobacco use, chronic systemic inflammation, and aging-related vascular degeneration. National trends in the combined burden of PAD and COPD remain under-investigated. This study aims to demonstrate trends and demographic patterns in deaths associated with both COPD and PAD in the United States from 1999 to 2023.

Methods: Mortality data from 1999 to 2023 were extracted from the Centers for Disease Control and Prevention's Wide-ranging Online Data for Epidemiologic Research database using International Classification of Diseases, Tenth Revision codes corresponding to PAD and COPD (I70.x and I73.9 for PAD and J40-J44 for COPD). Data from the Multiple Cause of Death Public Use Record were used to identify death certificates that listed both PAD and COPD simultaneously, whether as the underlying or contributing cause of death. Age-adjusted mortality rates (AAMRs) were calculated, stratified by age group, sex, race, state, urbanization, and region. Joinpoint regression analysis was used to evaluate trends and annual percent changes (APCs) and average annual percent change.

Results: A total of 283,974 deaths were reported among individuals with coexisting PAD and COPD, with an overall AAMR of 5.50. AAMRs declined significantly between 2001 and 2017 (APC: -3.06%, 95% confidence interval [CI]: -3.41, -2.72) but rose from 2017 to 2021 (APC: 5.72%, 95% CI: 1.85, 9.73). Males had a higher overall AAMR than females (7.84 vs. 4.25). The White population had the highest race-specific AAMR (6.13), and crude rates were highest in the 65+ age group (24.8). Geographically, West Virginia reported the highest state-level AAMR (10.51) (95% CI: 10.16-10.86). Nonmetropolitan areas had higher mortality rates (7.2) compared to metropolitan areas (5.11). Regionally, the Midwest exhibited the highest AAMR (6.42).

Conclusion: Although overall mortality related to PAD and COPD declined from 1999 to 2023, recent increases-particularly among older adults, males, the rural population, and specific geographic regions-highlight persistent disparities. While mortality from PAD or COPD alone has continued to decline, recent years have shown a reversal in patients with coexisting PAD and COPD, where mortality is rising disproportionately compared with either disease in isolation. These findings underscore the importance of continued surveillance and targeted chronic disease interventions to reduce mortality in high-risk populations.

Supplementary info

MeSH termsExpand

Full text links

35

Pediatr Exerc Sci

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. 2025 Mar 5;38(1):72-79.

doi: 10.1123/pes.2024-0128. Print 2026 Feb 1.

Evaluation of Functional Capacity and Pulmonary Functions in Pediatric Patients With Chronic Kidney Disease: A Retrospective Study

Irmak Çavuşoğlu [1], Elif Esma Safran [1], Sevgi Yavuz [2]

Affiliations Expand

- PMID: 40043714

- DOI: 10.1123/pes.2024-0128

Abstract

Purpose: Chronic kidney disease (CKD) affects pulmonary and cardiovascular systems. This study evaluates functional and pulmonary capacity in pediatric patients with CKD stages 1 to 5.

Methods: Medical records of 30 pediatric CKD patients (stages 1-5) from December 2019 to February 2021 were analyzed. Functional capacity was assessed with the 6-minute walk test and spirometry measured pulmonary function. Data on body mass index z scores, height z scores, and CKD etiology (congenital anomalies of the kidney and urinary tract, glomerulonephritis, or others) were included. Correlation and regression analyses evaluated relationships between CKD severity, pulmonary function, and functional capacity.

Results: Functional capacity worsened with CKD progression, with stage 5 patients showing the lowest 6-minute walk test distances (384 [71] m). Pulmonary function tests revealed lower forced expiratory volume in 1 second and peak expiratory flow values compared with healthy peers (P = .04, P < .001). Restrictive patterns were observed in early CKD, with obstructive changes in advanced stages. Positive correlations were noted between 6-minute walk test and forced expiratory volume in 1 second (r = .42) and peak expiratory flow (r = .48). Height z score emerged as an independent predictor of pulmonary outcomes.

Conclusions: CKD progressively impairs functional and pulmonary capacity in children, especially in advanced stages. These findings underline the importance of comprehensive care focusing on physical and respiratory health. Prospective studies are needed to validate these results and develop targeted interventions.

Keywords: 6-minute walk test; exercise capacity in CKD; pediatric nephrology; pediatric respiratory health; renal impairment in children.

Supplementary info

MeSH termsExpand

Full text links

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

1

Sci Rep

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. 2026 Jan 27.

doi: 10.1038/s41598-026-36832-4. Online ahead of print.

High prevalence of polypharmacy and nervous system medications in people with HIV: a cross-sectional analysis

Aida López López [1 2], Alexandre Pérez González [3 4], Jacobo Alonso Domínguez [3], Antonio Ocampo [4], Celia Miralles [4], Luis Morano [5], José Aguayo Arjona [6], Noemí Martínez López de Castro [7 8], Eva Poveda [3]

Affiliations Expand

- **PMID: 41593305**

- **DOI: 10.1038/s41598-026-36832-4**

Free article

Abstract

Polypharmacy is increasingly prevalent among people living with HIV (PLWH), especially as they age and manage multiple comorbidities. This cross-sectional study analyzed data from 268 PLWH in Vigo, Spain (2020-2023), revealing an aging cohort (mean age 49.8 years) and a 51.9% prevalence of multimorbidity. Descriptive,

bivariate, and multivariable logistic regression analyses were performed. Polypharmacy, defined as the chronic use of ≥ 5 non-antiretroviral drugs, was observed in 35.7% of participants, increasing among older adults (≥ 50 years, 50.7%; p < 0.001) and those living with HIV for > 10 years (43.0%; p = 0.004). Nervous system medications (47.0%), alimentary tract/metabolism drugs (36.2%), and cardiovascular drugs (34.3%) were the most common. Psychotropic drugs were frequent, particularly anxiolytics (24.8%) and antidepressants (22.9%). In multivariable analysis, anxiolytic use was associated with older age (OR = 1.03; p = 0.038), female sex (OR = 1.97; p = 0.042), current smoking (OR = 3.74; p = 0.002), and past cocaine use (OR = 2.52; p = 0.008); antidepressant use with past (OR = 3.46; p = 0.015) and current smoking (OR = 4.46; p = 0.001). These findings highlight the complexity of managing polypharmacy in aging PLWH and underscore the need for strategies to optimize medication use.

Keywords: HIV; Multimorbidity; Non-antiretroviral medication; Polypharmacy; Psychotropic drugs.

Conflict of interest statement

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

- 56 references

Supplementary info

Grants and fundingExpand

Full text links

2

Thorax

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. 2026 Jan 27:thorax-2024-222487.

doi: 10.1136/thorax-2024-222487. Online ahead of print.

Frailty, comorbidity and survival comparisons between populations eligible for screening according to risk factor versus risk score criteria: results from the Yorkshire Lung Screening Trial

Anas Almatrafi [1 2], Rhian Gabe [3], Rebecca J Beeken [2 4], Richard D Neal [2 5], Andrew Clegg [6], Kate E Best [6], Samuel Relton [2], Martel Brown [7], Hui Zhen Tam [3], Daniel Vulkan [3], Neil Hancock [2], Philip A Crosbie [8], Matthew E J Callister [2 9]

Affiliations Expand

- PMID: 41593003

- DOI: 10.1136/thorax-2024-222487

Free article

Abstract

Background: Lung cancer screening is effective for people at higher risk of the disease, but there is no international consensus on eligibility criteria. Some programmes use risk factors; others use multivariable risk scores, which might target an older, more comorbid population and thus limit life years gained. In this study, we compare frailty, comorbidities and overall survival between different eligible populations.

Methods: Participants aged 55-74 years undergoing lung cancer risk assessment in the Yorkshire Lung Screening Trial were analysed, comparing those who met the US Preventive Services Task Force 2021 lung cancer screening criteria ($USPSTF_{2021}$) criteria against established risk-based criteria currently used in screening protocols (Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial risk model ($PLCO_{m2012}$) ≥1.51%, used internationally, and the Liverpool Lung Project risk model (version 2) (LLP_{v2}) ≥2.5%, used in the UK), examining the number of individuals with frailty and comorbidities selected by each approach. In addition, risk score thresholds were set to select equivalent numbers of people screened compared with $USPSTF_{2021}$. Data recorded in primary care prior to randomisation were retrospectively extracted to allow calculation of the electronic Frailty Index (eFI) and an overall comorbidity count. Frailty, comorbidity counts and 3-year overall survival were compared between these various populations.

Results: Of 11 994 individuals aged 55-74 undergoing risk assessment, 3502 were eligible by $USPSTF_{2021}$, 3139 by $PLCO_{m2012}$ ≥1.51% and 3957 by LLP_{v2} ≥2.5%. The proportion of individuals with moderate/severe frailty was lower for the $USPSTF_{2021}$ population (10.6%) compared with $PLCO_{m2012}$ ≥1.51% (13.1%, adjusted p=0.0777) and LLP_{v2} ≥2.5% (13.4%, adjusted p=0.0272). The $USPSTF_{2021}$ identified significantly fewer individuals with multiple comorbidities (30.8%) than the $PLCO_{m2012}$ (36.1%, adjusted p=0.0033) and the LLP_{v2} (37.3%, adjusted p=0.0001).When compared in equivalent populations, both $PLCO_{m2012}$ with a threshold of 1.32%, and LLP_{v2} with a threshold of 2.92%, had a higher proportion of people both with moderate/severe frailty (12.6%, adjusted p=0.221 and 14.0%, adjusted p=0.0067 respectively) and multiple comorbidities (35.1%, adjusted p=0.0211 and 38.5%, adjusted p<0.0001 respectively) than $USPSTF_{2021}$.There were no apparent differences in 3-year overall survival between the eligible populations overlapping 95% CIs across risk groups.

Conclusion: These data suggest that currently used risk models identify populations with a small increase in moderate/severe frailty and multimorbidity

compared to the USPSTF$_{2021}$ criteria, but there is no evidence to suggest that this results in differences in 3-year overall survival.

Keywords: Lung Cancer.

Conflict of interest statement

Competing interests: PAC reports stock options from Everest Detection, and lecture honoraria from Bayer, outside the submitted work. RJB reports fellowship and grant funding from Yorkshire Cancer Research and grant funding from Roy Castle Lung Cancer Foundation, outside the submitted work. AC has received consultancy fees from the Geras Centre for Aging Research, received meeting/travel support from the Australian and New Zealand Society of Geriatric Medicine, and is a chair of the global Ageing Research Trialists collaborative.

Cite

3

Review

Curr Opin Support Palliat Care

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. 2026 Mar 1;20(1):5-10.

doi: 10.1097/SPC.0000000000000790. Epub 2026 Jan 27.

Practical aspects of managing multimorbidity in older adults with cancer

Shane O'Hanlon [1 2], Mark Baxter [3 4], Gabor Liposits [5]

Affiliations Expand

- PMID: 41460166

- DOI: 10.1097/SPC.0000000000000790

Abstract

Purpose of review: Managing multimorbidity in older adults with cancer is a central, complex challenge in modern oncology. Historically, this population was underrepresented in clinical trials, leaving clinicians without practical guidance. This review synthesizes recent evidence that moves beyond simply documenting frailty to deploying targeted, evidence-based interventions to improve supportive and palliative care.

Recent findings: The literature supports a practical 2-step approach to assessment, using screening tools like the Geriatric-8 to trigger a full Comprehensive Geriatric Assessment (CGA) with management, which is proven to reduce treatment toxicity. Goal-aligned deprescribing has emerged as an active clinical skill to manage polypharmacy. In decision-making, the focus has shifted from guideline-concordant to goal-concordant care. Finally, a needs-based paradigm for integrating palliative care is replacing older, prognosis-based models, distinguishing between generalist skills for all clinicians and specialist consultation for complex cases.

Summary: Recent evidence provides clinicians with practical approaches. By using validated screening, CGA-led interventions, systematic deprescribing, and needs-based palliative care, clinical teams can reduce treatment toxicity, lessen medication burden, and align complex cancer care with the personal priorities and quality-of-life goals of older patients.

Keywords: comprehensive geriatric assessment; geriatric oncology; multimorbidity; palliative care; supportive care.

- 43 references

Supplementary info

Publication types, MeSH termsExpand

Full text links

Proceed to details

Cite

4

Observational Study

AIDS

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. 2026 Feb 1;40(2):133-142.

doi: 10.1097/QAD.0000000000004352. Epub 2025 Nov 24.

Prevalence and risk factors of cognitive frailty in people with HIV

Jovana Milic [1], Stefano Calza [2], Luca Lazzarini [3], Mattia Cocchi [3], Federico Motta [4], Stefano Renzetti [5], Laura Sighinolfi [6], Michela Belli [6], Vera Todisco [6], Maddalena Albertini [6], Altea Gallerani [6], Marianna Menozzi [6], Gianluca Cuomo [6], Giuseppe Mancini [6], Chiara Mussi [3], Cristina Mussini [6 1], Andrea Calcagno [7], Giovanni Guaraldi [6 1]

Affiliations Expand

- PMID: 40971458
- PMCID: PMC12746784
- DOI: 10.1097/QAD.0000000000004352

Abstract

Background: Cognitive frailty (CF, the simultaneous presence of frailty and cognitive impairment) is recognized as a significant predictor of several adverse health outcomes. The objective of this study was to describe prevalence and risk factors for CF in people with HIV (PWH) >50 years.

Methods: This was a cross-sectional observational study including PWH attending Modena HIV Metabolic Clinic (MHMC). Neurocognitive function was measured with Cogstate battery that comprises six domains. Each individual CogState raw score was transformed into z-score after correction for age and sex. Neurocognitive impairment was defined by total global deficit score >0.5. Frailty was assessed by 37-Item frailty index. Scores <0.25 were considered fit or >0.26 as frail.

Results: A total of 1258 PWH were included, 916 (73%) were males, median age was 58 years, median time since HIV diagnosis was 27 years. The sample was divided into four groups (CF) based on the presence of frailty (F) and cognitive impairment (ICT): F+/ICT+, F+/ICT-, F-/ICT+, F-/ICT-. Age per 5-year increase [odds ratio (OR) = 1.27, confidence interval (CI): 1.02-1.55, P = 0.022], nadir CD4 + cell count (OR = 0.81, CI: 0.66 - 0.99, P = 0.042) and polypharmacy (OR = 3.47, CI: 2.00-6.00, P < 0.001) were associated with CF after adjustment for time since HIV diagnosis, multimorbidity, depression and cumulative exposure to dolutegravir.

Conclusion: CF prevalence in PWH >50 years was 6.8% and it is higher than what has been observed in the general population >65 years (1-4.4%). Nadir CD4 + cell count and polypharmacy was associated with CF, suggesting an HIV specific contribution related to the development of this condition.

Keywords: HIV; cognitive frailty; frailty; neurocognitive function; neurocognitive impairment; people with HIV; polypharmacy.

Conflict of interest statement

J.M. received speaker honoraria from Gilead and ViiV. G.G. and C.M. received research grant and speaker honoraria from Gilead, ViiV, MERCK, Jansen and Pfizer. G.G. and C.M. attended advisory boards of Gilead, ViiV and MERCK.

- 54 references
- 3 figures

Supplementary info

Publication types, MeSH termsExpand

Full text links

Proceed to details

Cite

5

Review

Pain Manag Nurs

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. 2026 Feb;27(1):e40-e48.

doi: 10.1016/j.pmn.2025.05.004. Epub 2025 Jun 10.

Physical Function in Adults With Fibromyalgia: A Scoping Review

Heather Lashley [1], Sarah R Caro [2], Sarah Holmes [3], Nicole Jennifer Klinedinst [3], Barbara Resnick [3]

Affiliations Expand

- PMID: 40500618

- DOI: 10.1016/j.pmn.2025.05.004

Abstract

Background: Fibromyalgia (FM) is a widespread chronic pain condition that impacts 10 million people in the United States and an estimated 3%-6% of the global population. Chronic pain leads to a marked decrease in one's quality of life, reduced productivity, chronic disease exacerbation, and psychiatric disorders. The negative impact of chronic pain on the physical and psychological health of individuals with

FM can result in substantial restrictions that limit daily activities and overall physical function.

Purpose: The purpose of this scoping review was to synthesize applicable literature on physical function among adults living with FM, to elucidate gaps in the literature, and to recommend directions for future research related to physical function among those living with FM.

Methods: The Joanna Briggs Institute scoping review methodology was used to identify and synthesize studies. The screening process was conducted using a Preferred Reporting Items for Scoping Reviews and Meta-Analyses (PRISMA-ScR) chart. The resulting 13 papers were comprehensively reviewed and demographic data was collated. Data was extracted and synthesized to form a matrix for comparison to more easily interpret major themes.

Results: Prior studies demonstrate that physical function scales are often subsumed into health-related quality of life or general function measures. The lack of a distinct measure of physical function made it difficult to compare and contrast research findings and to ensure all aspects of the concept were adequately measured. Multiple studies supported the relationship between resilience and functional adaptation among individuals with FM. Resilience was identified as a protective factor that promoted adaptation and reduced FM severity. Other factors noted to be associated with physical function included depression and multi-morbidity.

Conclusions: The purpose of this study was to describe the meaning of physical function, identify ways to measure physical function, and explore factors associated with physical function among adults living with FM. This scoping review lays a foundation for the development of future research contributing to the advancement of the understanding of factors associated with physical function among adults living with FM.

Keywords: Adaptation; Chronic Pain; Fibromyalgia; Physical Function; Resilience.

Conflict of interest statement

Declaration of competing interest The authors of this manuscript have no competing interests to declare.

Supplementary info

Publication types, MeSH termsExpand

Full text links

Observational Study

Heart Rhythm

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. 2026 Feb;23(2):340-348.

doi: 10.1016/j.hrthm.2025.02.049. Epub 2025 Mar 5.

Association of comorbidity patterns with outcomes and relation with the ABC pathway effectiveness in European patients with atrial fibrillation

Giulio Francesco Romiti [1], Bernadette Corica [1], Davide Antonio Mei [2], Marco Vitolo [2], Tommaso Bucci [3], Arnaud Bisson [4], Laurent Fauchier [5], Giuseppe Boriani [6], Marco Proietti [7], Gregory Y H Lip [8]

Affiliations Expand

- **PMID: 40054712**

- **DOI: 10.1016/j.hrthm.2025.02.049**

Abstract

Background: Patients with atrial fibrillation (AF) show increasingly complex comorbidity profiles, with detrimental effects on prognosis.

Objective: The purpose of this study was to explore patterns of comorbidities in patients with AF.

Methods: From a European-wide prospective observational registry of AF patients, we performed a latent class analysis to identify patterns of comorbidities. We analyzed association with use of oral anticoagulant (OAC) and with clinical outcomes at 2 years. Primary outcome was a composite of all-cause mortality and major adverse cardiovascular events. Association of the Atrial fibrillation Better Care (ABC) pathway on the risk of primary outcome across groups was also assessed.

Results: A total of 9613 AF patients were included (mean age 68.9 ± 11.4 years, 40.2% female). We identified 5 comorbidity patterns, with increasing clinical complexity phenotypes: low morbidity (46.1%), cardiovascular (25.0%), metabolic (11.3%), "heart failure" (9.7%), and multisystemic pattern (8.0%). OACs were less used in the "heart failure" and multisystemic patterns (odd ratio [OR] 0.69, 95% confidence interval [CI] 0.53-0.90; and OR 0.36, 95% CI 0.26-0.50, respectively), and more used in the metabolic pattern (OR 1.41, 95% CI 1.06-1.86). Compared with the low-morbidity phenotype, all other patterns except for the metabolic pattern were associated with hazard of the primary outcome, with highest magnitude observed

for the "heart failure" (hazard ratio [HR] 2.18, 95% CI 1.74-2.72) and multisystemic patterns (HR 2.14, 95% CI 1.62-2.82). Adherence to the ABC pathway was similarly associated with reduced hazard of the primary outcome across all groups (P for interaction = .885).

Conclusion: Comorbidities patterns are heterogeneously associated with treatment and prognosis in AF patients. Adherence to the ABC integrated pathway showed similar association with outcomes across all comorbidity patterns.

Keywords: Atrial fibrillation; Clinical complexity; Integrated care; Multimorbidity; Outcomes.

Conflict of interest statement

Disclosures Dr Romiti reports consultancy for Boehringer Ingelheim and an educational grant from Anthos, outside the submitted work; no fees are directly received personally. Dr Boriani reports small speaker fees from Bayer, Boehringer Ingelheim, Boston, BMS, Daiichi, Sanofi, and Janssen outside the submitted work. Dr Proietti is national leader of the AFFIRMO project on multimorbidity in AF, which has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 899871. Dr Lip has been consultant and speaker for BMS/Pfizer, Boehringer Ingelheim, Anthos, and Daiichi-Sankyo; no fees are directly received personally; all the disclosures happened outside the submitted work; and is a National Institute for Health and Care Research (NIHR) Senior Investigator and co-principal investigator of the AFFIRMO project on multimorbidity in AF, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 899871. All other authors have no conflicts to disclose.

- **Cited by 4 articles**

Supplementary info

Publication types, MeSH terms, Substances

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

1

Editorial

Respirology

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. 2026 Feb 1.

doi: 10.1002/resp.70199. Online ahead of print.

Challenges in the Management of Asthma and COPD in the Asia-Pacific Region

Fanny Wai San Ko [1], Chin Kook Rhee [2]

Affiliations Expand

- PMID: 41620844

- DOI: 10.1002/resp.70199

No abstract available

Keywords: COPD; asthma; challenges; management.

- 14 references

Supplementary info

Publication typesExpand

Full text links

2

Respirology

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. 2026 Feb 1.

doi: 10.1002/resp.70178. Online ahead of print.

Addressing the Global Challenges of COPD and Asthma: A Shared Vision From the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) and the Global Initiative for Asthma (GINA)

David M G Halpin [1], Refiloe Masekela [2 3], Claus F Vogelmeier [4], Obianuju B Ozoh [5], Alvaro A Cruz [6], Helen K Reddel [7], Arzu Yorgancıoğlu [8], Alvar Agusti [9]; Boards of Directors of the Global Initiative for Chronic Obstructive Lung Disease (GOLD) and Global Initiative for Asthma (GINA)

Collaborators, Affiliations Expand

- PMID: 41620839

- DOI: 10.1002/resp.70178

No abstract available

Keywords: GINA; GOLD; asthma; chronic obstructive pulmonary disease; diagnosis; management; prevention.

- 36 references

Full text links

Proceed to details

Cite

3

J Ultrasound

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. 2026 Jan 31.

doi: 10.1007/s40477-025-01113-9. Online ahead of print.

Lung ultrasound in children with asthma exacerbation: a longitudinal study

Lucypaula Andrade Pinheiro Fernandes [1], José Dirceu Ribeiro [2], Mariana Beatriz Gomes de Abreu [3], José Dilbery Oliveira da Silva [3], Thaise de Abreu Brasileiro Sarmento [4], Silvia Inara Araujo Gomes [4]

Affiliations Expand

- **PMID: 41619141**

- **DOI: 10.1007/s40477-025-01113-9**

Abstract

Introduction: Lung ultrasound (LUS) is a non-invasive imaging method that does not use ionizing radiation, making it particularly useful for evaluating children and adolescents.

Objectives: This study aimed to compare LUS findings in children and adolescents with asthma exacerbation to those with controlled asthma.

Methods: A prospective longitudinal observational study was conducted, following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist for reporting observational studies.

Results: Among patients with asthma exacerbation, 33 individuals were analyzed, and the study found that 51.5% of children in the exacerbation group had positive ultrasound findings, compared to only 12.1% in the controlled group. The calculated prevalence ratio was 2.27 (95% CI 1.46-3.55), with a p-value of 0.001, indicating a statistically significant difference in ultrasound findings between the two groups.

Discussion: These findings suggest that lung ultrasound may be a useful tool for identifying changes in children with asthma exacerbations. The significantly higher prevalence of positive findings in the exacerbation group (51.5%) compared to the controlled group (12.1%) suggests that LUS has the potential to detect changes associated with asthma exacerbation. Further research, including multicenter studies, is needed to validate these findings.

Conclusion: LUS demonstrated a higher prevalence of positive findings during asthma exacerbations, suggesting potential clinical utility as an adjunctive tool in pediatric asthma assessment.

Keywords: Asthma; Child; Longitudinal studies; Lung; Ultrasonography.

Conflict of interest statement

Declarations. Conflict of interest: The authors declare that they have no conflicts of interest related to this study.

- **20 references**

Full text links

UNIMORE

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Cite

4

Respir Med

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. 2026 Jan 28:253:108681.

doi: 10.1016/j.rmed.2026.108681. Online ahead of print.

Eligibility for biological treatments in COPD patients experiencing a severe COPD exacerbation

Stavroula Zaneli [1], Agamemnon Bakakos [1], Konstantinos Bartziokas [2], Anastasia Papaporfyriou [3], Kyriaki Cholidou [1], Nektarios Anagnostopoulos [1], Georgios Zakynthinos [4], Evangelos Oikonomou [4], Angelos Vontetsianos [1], Nikolaos Chynkiamis [1], Christina Anagnostopoulou [1], Nikoletta Rovina [1], Petros Bakakos [1], Andriana I Papaioannou [5]

Affiliations Expand

- PMID: 41616871

- DOI: 10.1016/j.rmed.2026.108681

Abstract

Introduction: Chronic obstructive pulmonary disease (COPD) exacerbations are important events in the natural history of the disease with debilitating consequences which include more rapid lung function decline, quality of life deterioration and increased risk of cardiovascular events and mortality. Inflammation in COPD is complex and is intrinsically less responsive to corticosteroids compared to asthma. Biologics could possibly reduce the burden of inflammation in selected patients.

Methods: In this single center retrospective study, we evaluated the eligibility of COPD patients hospitalized during the last 6 years in the respiratory department of a tertiary hospital for a severe COPD exacerbation, to receive either dupilumab or mepolizumab according to the inclusion criteria of their respective randomized controlled trials and GOLD 2026 recommendations.

Results: 496 patients were included in the study, 83 (16.7 %) patients were eligible for treatment with mepolizumab and 29 (5.8 %) for treatment with dupilumab, while 413 (83.3 %) were not eligible for any of the biologics currently approved for COPD treatment. Patients who were eligible for biologics had lower FEV_1/FVC ratio and had experienced more COPD exacerbations and more hospitalizations for COPD exacerbations in the previous year compared to those characterized as non-eligible. The main factor missing from non-eligible patients was treatment with triple inhaled medication, prior to hospitalization.

Conclusion: Only a minority of patients hospitalized due to severe COPD exacerbation would have been eligible to receive biologic therapy. Optimization of medical treatment including inhaled medication in addition to disease phenotyping are pivotal for the recognition of the patients which will benefit from the use of biologics.

Keywords: Biologics; COPD; Eosinophils; Exacerbations; Hospital admission.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:Nektarios Anagnostopoulos has received honoraria for lectures and, presentations from Menarini, Guidotti, Astra Zeneca and GSK and for expert

testimony from Menarini, Chiesi, Astra Zeneca, GSK Vivisol and ELPEN.Petros Bakakos has received Consulting fees from Astra Zeneca, GSK, Chiesi and Guidotti, honoraria for lectures from Astra Zeneca, GSK, Chiesi, Menarini Pfizer and GuidottiAndriana I Papaioannou has received consulting fees from Astra Zeneca and GSK and honoraria for lectures from Astra Zeneca, GSK, Chiesi, Menarini Pfizer, ELPEN, Alector, Opella, Specialty Therapeutics and Guidotti and support for attending meetings from Astra Zeneca, GSK, Chiesi, Menarini Pfizer, ELPEN, Alector, Opella, Specialty Therapeutics and Guidotti.Nikoleta Rovina has received honoraria for lectures from Astra Zeneca, Chiesi, Menarini Pfizer, ELPEN, MSD and Guidotti, support for attending meetings from Menarini, Astra Zeneca, Chiesi and Guidotti, and fees for participation in advisory boards from Menarini, Astra Zeneca, Chiesi and Guidotti.All other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

Cite

5

Review

Ital J Pediatr

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. 2026 Jan 29.

doi: 10.1186/s13052-026-02204-x. Online ahead of print.

State of art of oral corticosteroids in children with acute asthma and wheezing

Carmen Mazzuca [1], Valluzzi Rocco Luigi [1], Andrea Ficari [2], Lo Scalzo Lucia [1], Urbani Sara [1], Cafarotti Arianna [1], Fiocchi Alessandro [1], Vincenzo Fierro [1]

Affiliations Expand

- **PMID: 41612390**

- **DOI: 10.1186/s13052-026-02204-x**

Free article

No abstract available

Keywords: Asthma; Children; Deflazacort; Dexamethasone; Exacerbation; Oral corticosteroids; Prednisolone; Wheezing.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. Consent for publication: Not applicable. Competing interests: Not applicable.

- **68 references**

Supplementary info

Publication typesExpand

Full text links

Cite

6

Meta-Analysis

Eur J Pediatr

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. 2026 Jan 30;185(2):112.

doi: 10.1007/s00431-026-06743-7.

Neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio in asthmatic children: a systematic review with meta-analysis

Alireza Sharifi [1], Reza Rahbar [2], Tregony Simoneau [3], Maryam Roham [4], Maryam Yaghoubi Hamgini [5], Shahram Seyedi [6], Samad Samadizadeh [7], Paria Ghasemi Boroumand [8], Mohaddeseh Zojaji [9], Shaghayegh Rahmanifar [10], Mohammad E Ghaffari [11], Abotaleb Mohammadi-Brenjegani [12]

Affiliations Expand

- **PMID: 41612030**

- **DOI: 10.1007/s00431-026-06743-7**

Abstract

This study aimed to compare neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) between asthmatic and healthy children and to investigate the predictive role of PLR and NLR for asthma exacerbation. Web of Science, PubMed, Embase, Scopus, Cochrane Central Register of Controlled Trials, Google Scholar, and Medline were systematically searched up to August 2025. The search strategy was described by a combination of relevant medical subheadings (MeSH) and keywords. Eligible English language studies were reviewed, and their quality was appraised. This review followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A total of 13 studies, including 15,250 individuals, met the inclusion criteria. Asthmatic children had significantly higher NLR (SMD 0.852) and PLR (SMD 0.412) than the control group (P-value < 0.05). Exacerbated children had higher NLR (MD 2.5, P-value < 0.05) and PLR (MD 33.62, P-value > 0.05) at presentation compared to after 3 months follow-up. NLR with a cut-off of 1.738 (accuracy of 88%) and PLR with a cut-off of 128.15 (accuracy of 69.8%) can predict exacerbation in asthmatic pediatrics. Also, NLR with a cut-off of 1.335 (accuracy of 76.5%) can distinguish asthmatic from healthy children.

Conclusion: This systematic review discovered that PLR and NLR are increased in asthmatic children, and any changes in clinical situation such as superinfection and exacerbation can change their level. Moreover, NLR and PLR can predict exacerbation, and NLR can even distinguish asthmatic from healthy children.

What is known: • Asthma is diagnosed by classic methods such as spirometry, which cannot be used in younger children and cannot predict exacerbation. • A vital role in the inflammatory orchestra of asthma is played by activation of mast cells, which is mediated by a variety of markers, including neutrophils, platelets, lymphocytes, and macrophages.

What is new: • Mean PLR and NLR are increased in asthmatic children, and any changes in clinical situation such as superinfection and exacerbation can change their level. • NLR and PLR can predict exacerbation, and NLR can even distinguish asthmatic from healthy children.

Keywords: Asthma; Exacerbation; Neutrophil-to-lymphocyte ratio; Pediatrics; Platelet-to-lymphocyte ratio; Prediction.

Conflict of interest statement

Declarations. Ethical approval: Not applicable due to the nature of the current study. Conflict of interest: The authors declare no competing interests.

- **41 references**

Supplementary info

Publication types, MeSH termsExpand

Full text links

Cite

7

Eur Respir Rev

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. 2026 Jan 28;35(179):250099.

doi: 10.1183/16000617.0099-2025. Print 2026 Jan.

Redefining asthma treatment success: bridging remission goals with patient-centred outcomes

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Affiliations Expand

- PMID: 41605537

- PMCID: PMC12848580

- DOI: 10.1183/16000617.0099-2025

Abstract

CONFIRM provides a patient-centred approach to asthma remission, combining clinical metrics and quality-of-life outcomes for more accurate, real-world assessment. https://bit.ly/43TSUnu

Conflict of interest statement

Conflict of interest: V. Bellou has no conflicts to declare.

- 6 references

Supplementary info

Publication typesExpand

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8

Review

J Asthma

. 2026 Jan 28:1-22.

doi: 10.1080/02770903.2026.2623434. Online ahead of print.

Effectiveness of telemedicine in bronchial asthma: A network meta-analysis

Ahmad Homoud Al-Hazmi [1], Aryam Shannan K Alanazi [2], Munirah Suliman Faraj Alsuogaih [2], Shouq Sulaiman A Alanazi [2], Yasir Ayad T Alenezi [2], Saleh Eid S Alnasr [2], Shumukh Farhan B Alanazi [2], Abdullala Tarif H Alruwaili [2], Ahmed Abdullah H Alanazi [2], Ibrahim Farhan B Alanazi [2], Fai Tulail N Alenezi [2], Areen Amer A Alenezi [2], Rashed Atha M Alruwaili [2], Abdulaziz Saleh M Alfurayh [2], Daniya Sulaiman A Alanazi [2]

Affiliations Expand

- PMID: 41603955

- DOI: 10.1080/02770903.2026.2623434

Abstract

Objective: This study aimed to synthesize existing evidence comparing telemedicine with usual care and to examine the relative effectiveness of different telemedicine strategies in the management of asthma among adults.

Data sources: A systematic search of MEDLINE/PubMed, Cochrane Library, Web of Science, and Scopus identified randomized clinical trials published from inception until March 16, 2025.

Study selections: Telemedicine interventions were categorized as case management, consultation, education, monitoring, reminding, or combined approaches. Outcomes included asthma control, quality of life (QoL), and medication adherence. Results were synthesized using network meta-analysis and expressed as standardized mean differences (SMDs) or risk ratios (RRs) with 95% confidence intervals (CIs).

Results: Thirty-nine trials were included. Compared to usual care, asthma control improved significantly with combined strategies (N = 14; SMD:-0.55; 95%CI:-0.85, -0.25; p < 0.001), tele-education (N = 3; SMD:-0.62; 95%CI:-1.21, -0.02; p = 0.042), and tele-monitoring (N = 3; SMD:-1.20; 95%CI:-1.97, -0.42; p = 0.003). No significant benefit was found for case management, consultation, or reminder strategies. Based on SUCRA rankings, tele-monitoring, tele-education, and combined approaches were most effective for asthma control. For QoL, combined strategies showed a significant benefit over usual care (SMD:0.32; 95%CI:0.02, 0.62; p = 0.037). SUCRA rankings for QoL placed tele-education first, followed by tele-monitoring and combined strategies.

Conclusion: Telemedicine strategies, particularly monitoring, education, and combined approaches, improve asthma control and QoL in adults. However, heterogeneity in intervention design and limited reporting across outcomes suggest cautious interpretation and the need for further research before widespread clinical application.

Keywords: Asthma control; Network meta-analysis; Quality of life; Randomized clinical trials; Telemedicine; Telemonitoring.

9

J Asthma

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. 2026 Jan 27:1-12.

doi: 10.1080/02770903.2026.2623433. Online ahead of print.

Systemic coagulation and fibrinolytic alterations in eosinophilic asthma with and without nasal polyps

Nur Aleyna Yetkin [1], İnsu Yılmaz [1], Merve Özel Yetkin [2], Murat Türk [1], Tuğba Ertuğrul [1], Burcu Baran [1], Nuri Tutar [1], İnci Gülmez [1]

Affiliations Expand

- **PMID: 41591263**

- DOI: 10.1080/02770903.2026.2623433

Abstract

ObjectiveAsthma with nasal polyps constitutes a distinct eosinophilic phenotype marked by inflammation and altered coagulation. This study aimed to compare systemic coagulation and fibrinolytic profiles in eosinophilic asthma with and without nasal polyps.MethodsSeventy-two participants were enrolled: eosinophilic asthma with nasal polyps (n = 28), eosinophilic asthma without nasal polyps (n = 22), and age-, sex-, and body mass index-matched healthy controls (n = 22). To minimize confounding, participants were devoid of chronic comorbidities or medications affecting coagulation. Asthma patients were stable on maintenance corticosteroids. Blood eosinophil counts and hemostatic biomarkers [tissue plasminogen activator (tPA), plasminogen activator inhibitor 1 (PAI-1), α2-antiplasmin, D-dimer, fibrinogen, activated partial thromboplastin time (aPTT), international normalized ratio (INR), Factors V and VIII, and thrombin-antithrombin III complex (TAT)] were measured.ResultsCompared with controls, non-polyp asthma showed higher tPA and fibrinogen levels, whereas the nasal polyp subgroup had shorter aPTT and higher PAI-1. TAT levels were significantly lower in the nasal polyp subgroup than in the non-polyp subgroup ($p < 0.05$). In the overall asthma group, eosinophils correlated negatively with Factor V and PAI-1. Distinctly, the nasal polyp subgroup showed the lowest aPTT and Factor VIII levels, with eosinophils positively correlating with Factor VIII ($r = 0.638$, $p < 0.001$).ConclusionEosinophilic asthma with nasal polyps is characterized by distinct hemostatic alterations, including shorter aPTT, higher PAI-1, and lower TAT levels compared to the non-polyp phenotype. These findings suggest a specific link between type 2 inflammation and systemic hemostasis regulation in this subgroup.

Keywords: Eosinophilic asthma; Factor VIII; PAI-1; aPTT; asthma phenotype; biomarkers; coagulation; fibrinolysis; nasal polyps; systemic inflammation.

10

World Allergy Organ J

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. 2026 Jan 14;19(2):101159.

doi: 10.1016/j.waojou.2025.101159. eCollection 2026 Feb.

Clinical remission in patients with severe eosinophilic asthma treated with benralizumab over 24 months: Post hoc analysis of the ANANKE study

Giorgio Walter Canonica [1 2], Gianenrico Senna [3], Luisa Brussino [4], Maria Aliani [5], Elena Altieri [6], Pietro Bracciale [7], Maria Filomena Caiaffa [8], Paolo Cameli [9], Marco Caminati [10 11], Cristiano Caruso [12 13], Stefano Centanni [14], Fausto De Michele [15], Stefano Del Giacco [16], Fabiano Di Marco [17], Laura Malerba [18], Francesco Menzella [19], Paola Rogliani [20 21], Micaela Romagnoli [22], Pietro Schino [23], Jan Walter Schroeder [24], Alessandra Vultaggio [25], Maria D'Amato [26], Girolamo Pelaia [27]

Affiliations Expand

- PMID: 41583079
- PMCID: PMC12830156
- DOI: 10.1016/j.waojou.2025.101159

Abstract

Background: Clinical remission is an emerging treatment goal in severe eosinophilic asthma (SEA). While benralizumab, an anti-IL-5Rα monoclonal antibody, has demonstrated efficacy in SEA, its ability to induce clinical remission in real-life settings over extended follow-up remains underexplored.

Methods: This post hoc analysis of the multicenter, retrospective ANANKE study evaluated clinical remission over 24 months in 167 Italian patients with SEA treated with benralizumab. Remission was defined according to the Severe Asthma Network Italy (SANI) criteria. Complete clinical remission (cCR) required the absence of oral corticosteroid (OCS) use and the presence of 3 criteria: no symptoms, no exacerbations, and stable lung function. Partial clinical remission (pCR) required the absence of OCS use and 2 of the 3 criteria. Outcomes were assessed at 3, 12, and 24 months.

Results: The proportion of patients achieving clinical remission increased over time: 87.2% at 3 months (40.4% pCR, 46.8% cCR), 95.0% at 12 months (17.5% pCR, 77.5% cCR), and 96.1% at 24 months (23.5% pCR, 72.6% cCR). No baseline demographic or clinical characteristics were found to significantly predict remission status. Blood eosinophil counts declined from a mean of 476.7 to 5.2 cells/μL at 24 months.

Conclusion: In this real-world Italian cohort, benralizumab was associated with rapid and sustained clinical remission in patients with SEA over 24 months. The high remission rates observed early and maintained throughout treatment support the role of benralizumab as a disease-modifying therapy and reinforce clinical remission as a meaningful therapeutic goal in SEA.

Keywords: Benralizumab; Clinical remission; Severe eosinophilic asthma.

Conflict of interest statement

PC has received grants and fees as a speaker from AstraZeneca-MedImmune, Sanofi, and GlaxoSmithKline (GSK) in the last 3 years. GWC reports research or clinical trials grants paid to his institution from Menarini, AstraZeneca, GSK, Sanofi Genzyme and fees for lectures or advisory board participation from Menarini, AstraZeneca, CellTrion, Chiesi, Faes Farma, Firma, Genentech, Guidotti-Malesci, GSK, HAL Allergy, Innovacaremd, Novartis, OM-Pharma, Red Maple, Sanofi-Aventis, Sanofi-Genzyme, Stallergenes-Greer, and Uriach Pharma. SDG declares fees from AstraZeneca, Chiesi, GSK, Novartis, Sanofi, Menarini; unrestricted grants from AstraZeneca, GSK, Novartis, and Sanofi. FDM declares personal fees and support for research from AstraZeneca, Boehringer Ingelheim, Chiesi, Eurodrugs Laboratories, Laboratori Guidotti, GlaxoSmithKline, Levante Pharma, Menarini, Sanofi, Zambon. PR reports grants/research support to her institution from Arcede Pharma, AstraZeneca, Boehringer Ingelheim, Chiesi Farmaceutici, Sanofi, Verona Pharma and Zambon and honoraria or consultation fees from AstraZeneca, Boehringer Ingelheim, Chiesi Farmaceutici, GlaxoSmithKline, Menarini Group, Novartis, Pfizer, Recipharm, Regeneron, Roche and Sanofi. JWS declares personal fees and support for research from AstraZeneca, GSK, Sanofi, Stallergenes. The authors MA, EA, PB, LB, MF, MC, CC, SC, MD, FDM, LM, FM, GP, MR, PS, GS, and AV, declared no competing interests.

- **35 references**
- **2 figures**

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Editorial

Expert Opin Pharmacother

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. 2026 Jan 27:1-3.

doi: 10.1080/14656566.2026.2622484. Online ahead of print.

Corticosteroids in acute asthma care in children: what, why, and when

Jose A Castro-Rodriguez [1]

Affiliations Expand

- PMID: 41577434

- DOI: 10.1080/14656566.2026.2622484

No abstract available

Keywords: acute asthma exacerbation; children; inhaled corticosteroids; oral corticosteroids; systemic corticosteroids.

Supplementary info

Publication typesExpand

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Cite

12

Pediatrics

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. 2026 Feb 1;157(2):e2025072913.

doi: 10.1542/peds.2025-072913.

Trends and Associations of Chest Radiography Utilization in Children With Asthma Exacerbations

Robert M Hoffmann [1 2], Michael C Monuteaux [1 2], Cynthia A Gravel [1 2], Isabel Hardee [1 2], Susan C Lipsett [1 2], Alexander W Hirsch [1 2], Kyle A Nelson [1 2], Mark I Neuman [1 2]

Affiliations Expand

- PMID: 41494630

- DOI: 10.1542/peds.2025-072913

Abstract

Background and objective: Chest radiographs (CXRs) are often obtained among children presenting to the emergency department (ED) with an asthma exacerbation,

despite guidelines recommending against their routine use. The clinical consequences and hospital-level variation of this practice remain unclear. This study's objective was to assess trends, interhospital variation, and factors associated with CXR utilization for asthma exacerbations across US pediatric EDs.

Methods: Using the Pediatric Health Information System (PHIS), we identified ED encounters for children aged 2 to 18 years with asthma between 2016 and 2024. Asthma exacerbations were identified using a combination of a discharge diagnosis code for asthma and receipt of albuterol during the ED encounter. We evaluated CXR trends, patient/hospital-level predictors, and downstream outcomes using multivariable logistic regression models.

Results: CXRs were obtained in 145 059 children (22.3%). No significant temporal trend in overall CXR use was observed; however, CXR use declined among the subset of children diagnosed with pneumonia. Rates varied widely across hospitals (13.1%-37.7%). Higher CXR use was associated with younger age, female sex, white race, private insurance, and winter presentation. Hospitals with higher imaging rates had more pneumonia diagnoses and 3-day return visits but similar admissions, length of stay, and charges.

Conclusions: CXR utilization in pediatric asthma exacerbations is common, highly variable, and linked to increased pneumonia diagnoses and return visits. Persistent low-value imaging suggests hospital-level practices may influence diagnostic labeling and patient outcomes. Targeted interventions, such as decision support and benchmarking, are needed to reduce unnecessary imaging and promote equitable, evidence-based care in pediatric EDs.

13

Review

Am J Physiol Lung Cell Mol Physiol

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. 2026 Feb 1;330(2):L159-L168.

doi: 10.1152/ajplung.00060.2025. Epub 2025 Dec 31.

The role of estrogen receptors in lung diseases

Carolyn Damilola Ekpruke [1], Patricia Silveyra [1]

Affiliations Expand

- PMID: 41474472

- DOI: 10.1152/ajplung.00060.2025

Free article

Abstract

Lung diseases are major global causes of morbidity and mortality, yet the molecular basis of their observed sex differences remains unclear. Beyond their roles in reproductive biology, estrogens are central regulators of pulmonary homeostasis through three principal receptors: *1*) estrogen receptor α (ERα), *2*) estrogen receptor β (ERβ), and *3*) the G-protein-coupled estrogen receptor 1 (GPER1). These receptors are widely expressed across the airway epithelium, smooth muscle, fibroblasts, lung endothelium, and immune cells, where they integrate slow, genomic transcriptional programs and rapid, membrane-initiated signaling cascades to regulate inflammation, oxidative balance, and tissue remodeling. ERβ, often the dominant pulmonary isoform, tends to preserve extracellular matrix integrity and attenuate maladaptive inflammation, whereas ERα frequently amplifies proinflammatory transcriptional programs. GPER1 mediates rapid nongenomic responses that modulate vascular tone, airway smooth-muscle reactivity, and innate immune function, and is both an important regulator of allergic inflammation and a modulator of oncogenic signaling. Together, estrogen receptor subtype balance, subcellular localization, and ligand context determine whether estrogenic signaling is protective or pathogenic. Clinically, this framework helps explain life course and sex differences, such as postpubertal female predominance of asthma, menstrual and pregnancy-related exacerbations, and enhanced chronic obstructive pulmonary disease (COPD) susceptibility in women at lower tobacco exposure. In this review, we synthesize mechanistic and clinical evidence across lung diseases; delineate areas where data remain incomplete or contradictory; and outline opportunities for experimental and translational innovation. These include development of receptor-selective or biased ligands, inhaled or localized delivery, and implementation of sex-aware clinical trial designs to leverage estrogen-receptor biology for precision respiratory therapeutics.

Keywords: COPD; asthma; estrogen receptors; lung cancer; sex differences.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

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Cite

14

Exp Ther Med

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. 2025 Nov 28;31(2):35.

doi: 10.3892/etm.2025.13030. eCollection 2026 Feb.

Patients with sickle cell disease and asthma have a higher risk for acute chest syndrome: A systematic review and meta-analysis of observational studies

Konstantinos Dodos [1], Tsampika-Vasileia Kalamara [1], Demetrios A Spandidos [2], Alexandru Corlateanu [3], Vasiliki Epameinondas Georgakopoulou [4]

Affiliations Expand

- PMID: 41383254

- PMCID: PMC12690448

- DOI: 10.3892/etm.2025.13030

Abstract

Sickle cell disease (SCD) is a hereditary hematologic disorder characterized by abnormal hemoglobin polymerization, leading to vaso-occlusion, hemolysis and multi-organ complications. Acute chest syndrome (ACS) is a severe pulmonary complication and a leading cause of morbidity and mortality in patients with SCD. Asthma, a prevalent comorbidity in SCD, has been implicated in worsening disease outcomes, including increased ACS risk. This systematic review and meta-analysis aimed to evaluate the association between asthma and ACS in patients with SCD by synthesizing data from observational studies. A comprehensive search of the PubMed, Cochrane Library and Scopus databases, as well as gray literature, identified 13 eligible studies, 12 of which were included in the quantitative synthesis. The meta-analysis demonstrated that patients with SCD and asthma had a significantly higher risk of ACS (risk ratio=2.27, 95% confidence interval: 1.61-3.20, P=0.0003) compared to patients with SCD without asthma, with substantial heterogeneity observed (I^2=74%). The underlying mechanisms linking asthma and ACS may include chronic airway inflammation, increased susceptibility to infections, oxidative stress and endothelial dysfunction. Despite variations in study design and population characteristics, the findings underscore the need for vigilant asthma management in patients with SCD to mitigate ACS risk. Further research is

required to elucidate the pathophysiological interactions and develop targeted interventions to improve patient outcomes.

Keywords: acute chest syndrome; asthma; pulmonary complications; sickle cell disease; vaso-occlusion.

Conflict of interest statement

DAS is the Editor-in-Chief for the journal, but had no personal involvement in the reviewing process, or any influence in terms of adjudicating on the final decision, for this article. The other authors declare that they have no competing interests.

- 30 references
- 3 figures

Full text links

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Cite

15

Review

Curr Opin Allergy Clin Immunol

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. 2026 Feb 1;26(1):52-58.

doi: 10.1097/ACI.0000000000001129. Epub 2025 Dec 1.

Modifying the course of asthma: mechanisms and strategies for clinical remission

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Affiliations Expand

- PMID: 41330485

- DOI: 10.1097/ACI.0000000000001129

Abstract

Purpose of review: Asthma management is ongoing a paradigm shift from symptom control and exacerbation prevention toward the more comprehensive goal of clinical remission. This review is timely because biologic therapies, precision medicine, and improved understanding of immunopathological mechanisms have made remission a realistic therapeutic goal. By integrating clinical, functional, and biological outcomes, remission offers a more comprehensive framework for assessing long-term disease control.

Recent findings: Recent evidence demonstrate that biologic drugs, such as Mepolizumab, Omalizumab, Dupilumab, Benralizumab, and Tezepelumab, allow clinical remission to be achieved in many patients affected by severe asthma particularly those who show a phenotyping polarized toward T2-High. Lifestyle change, particularly weight loss and smoking cessation, early intervention, and the use of allergen immunotherapy may increase the chances of achieving remission. Real-world data confirm that remission rates vary depending on the definition applied, going from clinical to complete remission, highlighting the lack of a universally shared definition of remission and the need for standardized criteria.

Summary: Clinical remission in asthma is now a feasible target. Achieving this goal requires a multidimensional approach that integrates biologics, early treatment, comorbidity management, and lifestyle interventions. Standardized definitions and biomarkers are essential to guide therapeutic decisions and predict long-term outcomes.

Keywords: asthma; biologics; clinical remission; precision medicine; severe asthma.

- 34 references

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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Cite

16

Review

Curr Opin Allergy Clin Immunol

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. 2026 Feb 1;26(1):59-66.

doi: 10.1097/ACI.0000000000001123. Epub 2025 Nov 20.

Moving towards asthma remission from mechanistic understanding to clinical practice

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Affiliations Expand

- PMID: 41289984

- DOI: 10.1097/ACI.0000000000001123

Abstract

Purpose of review: In the past, treatment of asthma aimed primarily at "control" of symptoms and a reduction of future risk. Recently, however, the concept of remission has been introduced which is broader than control and includes the concept of disease modification by using disease-modifying antiasthmatic drugs (DMAADs) that exclude the use of systemic corticosteroids. This review highlights the definitions as well as the clinical implications of the concept of remission in asthma.

Recent findings: While in the past remission has been used mainly for the relatively rare event of spontaneous cessation of symptoms of asthma, a new definition has been proposed and included in several national guidelines and most recently also in international guidelines which include absence of symptoms, no exacerbations, stable pulmonary function, no need for systemic corticosteroids. In this review, novel definitions and their clinical implications are being discussed such as remission off treatment (e.g. following allergen immunotherapy) and remission on treatment (e.g. during treatment with a biologic). Furthermore, the concept of partial remission as well as the need to further investigate the interdependence of clinical and biological remission (reduction or normalization of inflammatory biomarkers) is discussed. This concept includes for the majority of patients the continuous use of a personalized treatment with DMAADs with a potentially lower treatment burden, provided patients are properly phenotyped and comorbidities are being recognized and treated.

Summary: In contrast to previous guidelines, applying the concept of remission has the potential to improve asthma care with earlier interventions with DMAADs and broader treatment approaches to improve long-term outcomes.

Keywords: asthma; biologic remission; clinical remission; disease-modification; phenotype.

- 37 references

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

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Cite

17

J Asthma

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-
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. 2026 Feb;63(2):249-262.

doi: 10.1080/02770903.2025.2589788. Epub 2025 Dec 1.

Macrolide prescribing and preemptive electrocardiograms in asthma, COPD, ACO, and general population: a drug-utilization study

Victor Pera [1], Heleen Lepouttre [1 2], Cesar Barboza [1], Anna Palomar-Cros [3], Irene López-Sánchez [3], Talita Duarte-Salles [1 3], Peter R Rijnbeek [1], Katia M C Verhamme [1 2]

Affiliations Expand

- PMID: 41250618

- DOI: 10.1080/02770903.2025.2589788

Abstract

Objective: Macrolides are used in patients with chronic respiratory conditions to prevent exacerbations. However, due to their QT interval prolonging effect, an electrocardiogram (ECG) assessment prior to long-term treatment is recommended. The objective was to evaluate the incidence of macrolides use (azithromycin, clarithromycin, erythromycin) in individuals with asthma, chronic obstructive pulmonary disease (COPD), asthma-COPD overlap (ACO), and to assess the frequency of ECGs performed prior to long-term macrolide prescribing.

Methods: We utilized data from the Dutch Integrated Primary Care Information (IPCI) database and Spanish Information System for Research in Primary Care (SIDIAP), between 2006 and 2022. The study population consisted of individuals diagnosed with asthma, COPD, and ACO with ≥365 days follow-up after diagnosis. Incidence was analyzed by type of macrolide, database, year, and prescribing-duration (short-, medium-, long-term [<30, 30-179, ≥180 days]).

Results: SIDIAP included 224,783 individuals with asthma, 167,524 with COPD, and 34,475 with ACO, while IPCI included 66,383 with asthma, 26,805 with COPD, and 7250 with ACO. The incidence of short-term use per 100,000 person-years (PYs) was

3500-6700 for azithromycin, 1300-2100 for clarithromycin and 200-300 for erythromycin. The incidence of medium- and long-term use was less than <1100/100,000 PYs. Incidence rates were higher in SIDIAP, females, and 60-79 year-olds. Medium- and long-term use was 2- to 4-fold higher in COPD and ACO than asthma, and increased over time. Database-registered ECGs were found in less than 1% of long-term macrolide users.

Conclusions: Long-term macrolide users were on the rise among COPD- and ACO individuals; however, ECG monitoring was rare, raising concerns given guideline recommendations.

Keywords: ACO; COPD; Macrolides; asthma; electrocardiogram; prescriptions.

Supplementary info

MeSH terms, SubstancesExpand

Full text links

Cite

18

Review

Immunol Allergy Clin North Am

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. 2026 Feb;46(1):81-95.

doi: 10.1016/j.iac.2025.09.006. Epub 2025 Oct 31.

Differential Diagnoses Associated with Chronic Rhinitis and Chronic Rhinosinusitis

Giselle Mosnaim [1], Auddie M Sweis [2], Evelyn Konsur [3], Ewa Schafer [3]

Affiliations Expand

- **PMID: 41241427**

- **DOI: 10.1016/j.iac.2025.09.006**

Abstract

Chronic rhinitis and chronic rhinosinusitis can negatively impact quality of life and lead to the development of asthma, myocardial infarction, stroke, sleep disturbance, learning impairment, anxiety, and depression. This article provides an overview of the differential diagnoses of these 2 conditions, including: antibody deficiencies, defects of mucociliary clearance, obstructive sleep apnea, odontogenic conditions, neoplasms, otologic conditions, eating-related disorders, medication-related conditions, disease mimickers, and headache and facial pain conditions.

Keywords: Chronic rhinitis; Chronic rhinosinusitis; Rhinitis; Rhinosinusitis.

Conflict of interest statement

Disclosures Dr G. Mosnaim receives current research grant support from Areteia, AstraZeneca, United Kingdom, Celldex, United States, GlaxoSmithKline, United Kingdom, Genentech, United States, Incyte, United States, Merck, United States, Novartis, Switzerland, Sanofi, United States, Regeneron and Teva, and receives consulting, advisory board, and/or speaking fees from Abbott, Astra-Zeneca, Chiesi, Genentech, Jasper, Novartis, Sanofi, Regeneron, and Teva. Dr E. Schafer receives advisory board, and/or speaking fees from Areteia, GSK, Optinose, Sanofi/Regeneron, and SoundHealth and owns stock in SoundHealth. Dr E. Konsur and Dr A.M. Sweis have no conflicts of interest to disclose.

Supplementary info

Publication types, MeSH termsExpand

Full text links

Cite

19

Review

Immunol Allergy Clin North Am

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. 2026 Feb;46(1):49-67.

doi: 10.1016/j.iac.2025.09.004. Epub 2025 Oct 31.

Occupational Rhinitis

Joshua S Bernstein [1], Kaleb Ware [2], José Zamora-Sifuentes [3], Jill A Poole [4], Dennis Shusterman [5]

Affiliations Expand

- PMID: 41241425

- DOI: 10.1016/j.iac.2025.09.004

Abstract

Occupational rhinitis is a frequently underdiagnosed condition that can cause patient morbidity, potentially progress to asthma, and result in economic hardship for both the individual and the workforce. It is important to screen for work-related exposures and have knowledge of high molecular weight and low molecular weight agents in the workplace, as well as common occupational irritants. Having a methodical diagnostic approach, understanding primary, secondary, and tertiary prevention measures, recognizing comorbid disease and utilizing targeted management strategies will, in all likelihood, improve patient outcomes. Challenging cases may require co-management of Allergy with both Primary Care and Occupational Medicine.

Keywords: Allergy; Diagnosis; Irritation; Management; Occupational rhinitis; Work exposure; Work-related rhinitis.

Conflict of interest statement

Disclosure J.A. Poole has received research reagents (no monies) from AstraZeneca, United Kingdom and has served as a site recruiter for clinical industry studies for asthma, sinus disease, and urticaria with GlaxoSmithKline, AstraZeneca, Regeneron Pharmaceuticals, and CellDex Therapeutics in the past 5 years. All other authors with no disclosures.

Supplementary info

Publication types, MeSH termsExpand

Full text links

Immunol Allergy Clin North Am

. 2026 Feb;46(1):161-176.

doi: 10.1016/j.iac.2025.09.011. Epub 2025 Oct 31.

Updates on Artificial Intelligence-Assisted Allergic Rhinitis and its Impact on Asthma Care Pathways

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Affiliations Expand

- PMID: 41241423

- DOI: 10.1016/j.iac.2025.09.011

Abstract

The use of artificial intelligence (AI) in medicine has been growing steadily over the past decade, but it has not been until the past few years that it has been employed officially in many different medical environments, from AI-assisted diagnosis to therapeutic decisions and even AI-assisted interventions. The Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines have always been at the avant-garde in embracing new techniques in guideline development since its conception. We present a narrative review of ARIA's developmental stages, particularly focusing on the final one: the integration of AI in the development of the latest update.

Keywords: ARIA; Allergic conjunctivitis; Allergic rhinitis; Artificial intelligence; Asthma; Guideline.

Conflict of interest statement

Disclosure D. Larenas-Linnemann reports personal fees from ALK, Armstrong, AstraZeneca national and global, Bayer, Chiesi, Grünenthal, Grin, GSK national and global, Viatris, Menarini, MSD, Novartis, Pfizer, Sanofi, Siegfried, Carnot, and Syneos Health; grants from Abbvie, Bayer, Lilly, Sanofi, AstraZeneca, Pfizer, Novartis, Pulmonair, GSK, Chiesi, and Biopharma, outside the submitted work. J. Bousquet reports personal fees from Cipla, Menarini, Mylan, Novartis, Purina, Sanofi, Teva, Uriach, other from KYomed-Innov, and other from Mask-air-SAS. M.V. Martínez-Larenas, J.F. Iñigo-Padilla, B. Sousa-Pinto, and J.A. Luna-Pech have no COIs to declare.

Supplementary info

Publication types, MeSH termsExpand

21

Review

Immunol Allergy Clin North Am

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. 2026 Feb;46(1):145-160.

doi: 10.1016/j.iac.2025.09.010. Epub 2025 Oct 30.

Management of Chronic Rhinosinusitis with or Without Nasal Polyposis

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Affiliations Expand

- PMID: 41241422

- DOI: 10.1016/j.iac.2025.09.010

Abstract

Chronic rhinosinusitis (CRS) is a complex disease with multiple phenotypes. The primary phenotypic division is CRS with nasal polyps (CRSwNP) and CRS without nasal polyps (CRSsNP). The majority of patients with CRSwNP have type 2 inflammatory disease characterized by eosinophilic inflammation and type 2 cytokines (primarily interleukin-4, 5, and 13). CRS is not primarily an infectious problem, although viral and bacterial infections or dysbiosis may exacerbate the disease. There is an association of CRS with asthma, particularly CRSwNP. Treatment of the CRS benefits asthma.

Keywords: Chronic sinusitis; Nasal polyps; Polyposis; Sinusitis; Type 2.

Conflict of interest statement

Disclosure

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

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Cite

22

Review

Immunol Allergy Clin North Am

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. 2026 Feb;46(1):111-124.

doi: 10.1016/j.iac.2025.09.008.

Immunotherapy in Allergic and Mixed Rhinitis

Tolly Epstein [1], David I Bernstein [2]

Affiliations Expand

- PMID: 41241419

- DOI: 10.1016/j.iac.2025.09.008

Abstract

Allergen immunotherapy is the only treatment modality that can modify severity of allergic rhinitis. Subcutaneous immunotherapy (SCIT) and sublingual immunotherapy (SLIT) are both effective treatment options. SLIT has a better safety profile with rare reports of systemic reaction events. In this article, we will review evidence pertaining to efficacy of individual treatment allergens and assess relative efficacy and safety of SLIT versus SCIT.

Keywords: Allergen immunotherapy; Safety efficacy allergic rhinitis asthma; Subcutaneous immunotherapy; Sublingual immunotherapy.

Conflict of interest statement

Disclosure David I. Bernstein, MD: Grant support from Amgen, AstraZeneca, Genentech, GlaxoSmithKline, Novartis, Regeneron, Sanofi, and TEVA and served as an advisor for ARS, Aquestive Therapeutics, and Bryn. Tolly Epstein, MD, MS: None.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

Full text links

Proceed to details

Cite

23

Review

Immunol Invest

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. 2026 Feb;55(2):309-332.

doi: 10.1080/08820139.2025.2583274. Epub 2025 Nov 10.

Type 2 Inflammatory Phenotypes in Chronic Obstructive Pulmonary Disease and Asthma: Similarities and Differences

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Affiliations Expand

- **PMID: 41215543**

- **DOI: 10.1080/08820139.2025.2583274**

Abstract

Background: Asthma and chronic obstructive pulmonary disease (COPD) - two common airway diseases - have drawn greater attention lately because of their increasing occurrence and mortality rates. The main inflammatory types - type 2 and non-type 2, which include type 1 and type 3 inflammation - are distinguished by the presence of discrete immune cells, that coordinate the recruitment and activation of inflammatory cells, resulting in various pathological presentations, clinical symptoms, therapeutic responses, and prognoses. Despite significant differences, COPD and asthma share many inflammatory commonalities. In recent years, the

type 2 inflammatory phenotype in COPD has steadily emerged as the focus of COPD research. Understanding the differences between COPD and asthma with type 2 inflammatory phenotypes is critical for designing individualized treatment strategies.

Methods and results: This review systematically searched for Chinese and English literature on COPD and asthma in the field of type 2 inflammation, and conducted a comprehensive review and analysis of the relevant content. It explored the similarities and differences between type 2 inflammatory phenotypes in COPD and asthma, with particular emphasis on their inflammatory mechanisms, clinical features, biomarkers, therapeutic targets, and treatment responses.

Conclusion: This review investigates the similarities and differences between type 2 inflammatory phenotypes in COPD and asthma, with the aim of better addressing their diversities, gain deeper insights into their underlying cellular and molecular mechanisms, develop novel therapies in unmet areas, explore more effective treatment directions, reduce the disease burden, and enhance patient outcomes.

Keywords: Chronic obstructive pulmonary disease; asthma; phenotype; type 2 inflammation.

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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Cite

24

Multicenter Study

J Asthma

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. 2026 Feb;63(2):206-213.

doi: 10.1080/02770903.2025.2581018. Epub 2025 Nov 13.

Tapering of inhaled corticosteroids in stable T2-low asthma: a randomized trial of symptom- and biomarker trajectories

Christiane Hammershaimb E Mosbech [1], Nina Skavlan Godtfredsen [1 2], Ida Skovgaard Christiansen [3], Lasse Kristoffer Bak [4 5 6], Charlotte Suppli Ulrik [1 2], Christian Grabow Westergaard [1]

Affiliations Expand

- PMID: 41160477

- DOI: 10.1080/02770903.2025.2581018

Free article

Abstract

Objective: To investigate whether tapering of inhaled corticosteroids (ICSs) is non-inferior to standard of care (SoC) in asthma patients with a stable type 2 (T2)-low inflammatory profile, generally considered less responsive to ICS therapy, and to describe symptom and biomarker trajectories during tapering.

Methods: This randomized, controlled, open-label multicenter trial conducted across specialist centers between 2022 and 2024 recruited adult asthma patients with persistently low T2 biomarkers, defined as blood eosinophils <0.15 × 10^9/L, fractional exhaled nitric oxide (FeNO) <25 ppb, and non-allergic phenotype. Patients' adherent to medium- or high-dose ICS were randomized 1:1 to either ICS tapering (50% reduction at randomization and withdrawal after 8 weeks) or continued SoC. The primary endpoint was change in Asthma Control Questionnaire (ACQ) score at 16 weeks. Secondary endpoints included changes in blood and sputum eosinophils, FeNO, periostin, and lung function.

Results: Recruitment proved challenging as only 20 of 2766 screened patients met eligibility criteria, leading to early study termination. Median ACQ remained stable in the tapering group (0 [-0.14; 0.5]) and improved modestly in the SoC group (-0.44 [-0.9; -0.11]; $p = 0.211$). FeNO ($p = 0.038$) and periostin ($p = 0.031$) increased with tapering but remained within the T2 low range. Minimal changes were observed in blood eosinophils ($p = 0.3$) and FEV_1 ($p = 0.7$).

Conclusions: Premature trial termination due to recruitment challenges reflects the rarity of stable T2-low asthma. ICS tapering was not associated with greater symptom deterioration compared to SoC, although non-inferiority was not demonstrated.

Keywords: ICS withdrawal; T2-low asthma; asthma control; biomarker guided therapy; individualized treatment.

Cite

25

J Asthma

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. 2026 Feb;63(2):169-178.

doi: 10.1080/02770903.2025.2581006. Epub 2025 Oct 29.

Assessment of the relationship between asthma severity and cardiac functions using speckle tracking in pediatric patients

Seçil Doğa Tunç [1], Gökçe Kaya Dinçel [2], Azize Pınar Metbulut [3], Seçil Sayin [2], İbrahim İlker Çetin [2], Emine Dibek Misirlioğlu [3]

Affiliations Expand

- PMID: 41137737

- DOI: 10.1080/02770903.2025.2581006

Abstract

Objective: The long-term effects of childhood asthma on cardiac functions remain unclear. This study evaluates the relationship between asthma severity and cardiac function in pediatric asthma patients.

Methods: Children aged 10-18 years with at least five years of asthma follow-up and no known cardiac disease were included. A control group of healthy children with no chronic diseases participated. Both groups underwent electrocardiography, conventional echocardiography, tissue Doppler examination (TDI), and 2D speckle tracking echocardiography (2D-STE).

Results: A total of 113 asthma patients (59 mild, 54 moderate-severe) and 59 controls were assessed. Compared to controls, the asthma group had increased right ventricular area (RVA) ($p = 0.04$), while interventricular septal and left ventricular S' velocity (IVSS', LVS') and right ventricular late diastolic velocity (RVA') were lower ($p = 0.04$, $p = 0.04$, $p = 0.02$, respectively). Conventional and TDI parameters showed no other significant differences. In 2D-STE measurements, left ventricular global longitudinal and circumferential strain (LVGLS, LVGCS), right ventricular global longitudinal strain (RVGLS), and right atrial reservoir strain (RARS) were lower ($p = 0.01$, $p = 0.03$, $p = 0.01$, $p = 0.01$, respectively), while left ventricular global longitudinal and circumferential strain rate (LVGLSR, LVGCSR), right ventricular global longitudinal strain rate (RVGLSR), and right atrial reservoir strain rate (RARSR) were higher ($p = 0.04$, $p = 0.04$, $p = 0.03$, $p = 0.04$, respectively) in the asthma group, with more pronounced differences in the moderate-severe asthma group.

Conclusion: Our study shows a decrease in both systolic and diastolic functions in both ventricles and right atrium in relation to the severity of childhood asthma, and 2D-STE can be useful in identifying early changes.

Keywords: Asthma; asthma severity; cardiac strain; echocardiography; pediatric; tissue Doppler.

Supplementary info

MeSH termsExpand

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26

Br J Dermatol

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. 2026 Jan 27;194(2):213-215.

doi: 10.1093/bjd/ljaf369.

Caution regarding interpretation of trends for the global burden of atopic dermatitis and asthma: a critically appraised topic

Sheng-Pei Wang [1 2], Elisha Myers, Bernd W M Arents, Carsten Flohr, Alan D Irvine, Sinéad M Langan, Neil Pearce, Hywel C Williams, Katrina Abuabara [3 4]

Affiliations Expand

- **PMID: 40998742**

- **DOI: 10.1093/bjd/ljaf369**

No abstract available

Full text links

OXFORD ACADEMIC UNIMORE

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Cite

27

Br J Dermatol

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. 2026 Jan 27;194(2):225-235.

doi: 10.1093/bjd/ljaf309.

Safety of tralokinumab in patients with moderate-to-severe atopic dermatitis followed for up to 4.5 years: an integrated analysis of eight clinical trials

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Affiliations Expand

- PMID: 40879371

- DOI: 10.1093/bjd/ljaf309

Abstract

Background: Patients with moderate-to-severe atopic dermatitis (AD) require long-term management. Understanding the long-term safety of new treatments is a top priority for patients and healthcare professionals.

Objectives: To evaluate the safety of tralokinumab in adults and adolescents with moderate-to-severe AD by conducting an integrated safety analysis of seven placebo-controlled trials and the ongoing, open-label extension study ECZTEND (NCT03587805).

Methods: An initial 16-week placebo-controlled (PBO-CTRL) safety set and an all-tralokinumab (ALL-TRALO) safety set combining the placebo-controlled trials and ECZTEND (data cutoff 30 April 2022) were analysed. All treatment-emergent adverse events were recorded. Adverse events of special interest (AESIs) were predefined. Safety areas of clinical interest for advanced systemic AD treatments were captured retrospectively. Proportions of patients with events and incidence rates (IRs) per 100 patient-years of exposure (PYE) were calculated. PYE was defined as the time until the first event or exposure end, whichever came first, and incidence was defined as the first event.

Results: Safety results were similar between the PBO-CTRL safety set and ALL-TRALO safety set. In the latter, 2693 patients received tralokinumab for up to 238.5 weeks (approximately 4.5 years, PYE = 5320.2). Most adverse events (AEs) were nonserious, mild or moderate in severity, and occurred with similar frequencies

between tralokinumab and placebo in the PBO-CTRL safety set. The most common AEs that occurred at higher rates for tralokinumab vs. placebo were nasopharyngitis [IR ratio (IRR) comparing tralokinumab vs. placebo 1.26], conjunctivitis (IRR 3.11) and injection site reaction (IRR 19.57). Dermatitis atopic and asthma occurred at lower rates with tralokinumab vs. placebo (IRR 0.51 and IRR 0.57, respectively). AESI eye disorders occurred at higher rates with tralokinumab vs. placebo (IRR 2.43) and 98% were mild to moderate. AESIs that were less frequent with tralokinumab vs. placebo included skin infections requiring systemic treatment (IRR 0.43) and eczema herpeticum (IRR 0.32). Rates of AEs of clinical interest (related to other approved systemic AD treatments) were low and similar between treatment groups. IRs of AEs did not increase with longer exposure in the ALL-TRALO safety set.

Conclusions: Long-term use of tralokinumab in adults and adolescents with moderate-to-severe AD was well-tolerated and consistent with the initial placebo-controlled treatment period, with no new safety signals identified.

Plain language summary

Atopic dermatitis is a skin disease caused by an overactive immune system. It leads to recurring, itchy and dry patches of skin. It is also known as eczema. The disease is estimated to affect over 200 million people worldwide. It often requires long-term treatment and can have an impact on a person's quality of life. Tralokinumab is a medicine that is injected under the skin. It is approved in many countries to treat patients over 12 years of age with moderate-to-severe atopic dermatitis. In this study, we examined the side effects of tralokinumab treatment in 2693 patients with atopic dermatitis treated for up to four and a half years. Our results were similar to other studies of tralokinumab. No new side effects were identified. Most side effects were mild or moderate. Common side effects with tralokinumab treatment included the common cold, conjunctivitis ('pink eye') and skin reactions where the medicine was injected. We also looked at side effects linked to other long-term treatments for AD. These included infections, joint stiffness and nausea. We found that the rates of these side effects while taking tralokinumab were low and did not increase over time. In conclusion, our findings suggest that long-term treatment with tralokinumab can be well-tolerated by patients for up to four and half years. This supports the strong safety profile of tralokinumab for patients with moderate-to-severe AD.

- Cited by 1 article

Supplementary info

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28

Observational Study

Laryngoscope

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. 2026 Feb;136(2):669-677.

doi: 10.1002/lary.70083. Epub 2025 Aug 26.

Chronic Rhinosinusitis With Nasal Polyps: The Effectiveness of Dupilumab in Mixed Endotypes

Giancarlo Pecorari [1], Anastasia Urbanelli [1], Marco Garetto [1], Arianna Borro [1], Nicola Rotolone [1], Alberto Tosello [1], Davide Ferrero [1], Giuseppe Riva [1]

Affiliations Expand

- PMID: 40856039

- DOI: 10.1002/lary.70083

Abstract

Objective: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a complex and heterogeneous condition. Cluster analyses identified mixed endotypes underlying CRSwNP, characterized by overlapping inflammatory markers, such as the co-expression of T2 and neutrophilic markers. The aim of this prospective observational study was to evaluate the effectiveness of dupilumab for CRSwNP in a real-life setting, comparing different nasal endotypes.

Methods: Thirty-one patients with uncontrolled type 2 CRSwNP who underwent biologic therapy with dupilumab were included. Endoscopic examinations, nasal cytology, smell (Visual Analogue Scale-VAS), blood eosinophils, evaluation of quality of life (SNOT-22 questionnaire), and asthma severity (Asthma Control Test-ACT) were performed before starting the treatment (T0) and after 3 (T1), 6 (T2), and 12 months (T3).

Results: A mixed endotype (neutrophil and eosinophil) was observed in 51.6% of cases at T0. An increase of neutrophil infiltrate between T0 and T3 was observed in 51.6% of patients. Such an increase could be present both in patients with a mixed endotype and pure eosinophil endotype at T0. A smaller improvement was observed for SNOT-22 physical symptoms, SNOT-22 nasal symptoms, SNOT-22 total score, and VAS for smell loss in patients with a neutrophil increase. However, such individuals had lower scores in these parameters at T0 and then reached the values of other subjects at T3.

Conclusion: Dupilumab is an effective treatment also in mixed neutrophil-eosinophil endotypes. A peculiar clinical condition with fewer symptoms and better quality of life is present in patients that will have a neutrophil increase at nasal cytology during the treatment.

Keywords: chronic rhinosinusitis; dupilumab; endotype; nasal cytology; nasal polyposis; neutrophil.

- **26 references**

Supplementary info

Publication types, MeSH terms, SubstancesExpand

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

1
Inflammopharmacology
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. 2026 Jan 31.
doi: 10.1007/s10787-025-02097-y. Online ahead of print.

Montelukast alleviates levels of inflammatory factors and chemokines in patients with allergic rhinitis

Bo Ru [1], Wenbo Jiang [2]
Affiliations Expand

- **PMID: 41619086**
- **DOI: 10.1007/s10787-025-02097-y**

No abstract available

Keywords: Allergic rhinitis; Chemokines; Inflammatory factors; Montelukast.

Conflict of interest statement

Declarations. Competing interests: The authors have no relevant financial or non-financial interests to disclose. Ethics approval: The study was approved by the local ethics committee of the Baihe Branch of Yinzhou People's Hospital (Approval number: BBYPH032), all experiments were performed in accordance with relevant guidelines and regulations such as the Declaration of Helsinki. Consent to participate: Informed consents were obtained from all participants included in the study. Consent to publish: Not applicable and no personal data for any participant are included.

- 25 references

Full text links

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2

Br J Hosp Med (Lond)

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. 2026 Jan 26;87(1):50388.

doi: 10.31083/BJHM50388.

Impacts of the Severity of Allergic Rhinitis on Inflammatory Characteristics, Nasal Function, Anxiety and Depression

Wei Han [1], Xiuming Pang [2], Xinpeng Yang [2], Li Jiang [3]

Affiliations Expand

- PMID: 41609148

- DOI: 10.31083/BJHM50388

Free article

Abstract

Aims/background: Allergic rhinitis (AR) is an upper respiratory disease that affects inflammation levels, nasal function, and mental health in patients. However, the effect of AR severity on these indicators remains obscure. This study aimed to explore the impacts of AR severity on levels of inflammatory factors, nasal function, anxiety and depression.

Methods: The clinical data of 188 patients with AR from January 2022 to January 2025 were collected and retrospectively analyzed. The patients were divided into mild group (n = 90) and moderate/severe group (n = 98) based on the severity of AR. Meanwhile, 79 healthy individuals matched in age, gender, and body mass index (BMI) with the AR patients were included in the control group. Nasal airway resistance (NAR) and nasal mucociliary clearance time (NMCT) were detected. Hospital Anxiety and Depression (HAD) scale was applied for the assessment of anxiety and depression. Serum level of C-reactive protein (CRP) was measured using an automatic biochemical analyzer. Serum procalcitonin (PCT) and nasal lavage fluid levels of interleukin-1β (IL-1β) and tumor necrosis factor-α (TNF-α) were measured using commercial assay kits.

Results: Compared with the control group, the CRP, PCT, IL-1β, TNF-α, NAR, NMCT, and HAD anxiety and depression scores in AR patients were significantly increased (both $p < 0.05$). Compared with the mild group, the moderate/severe group exhibited increased levels of inflammatory biomarkers, NAR, NMCT, and HAD anxiety and depression scores ($p < 0.05$). In the mild group, anxiety and depression were correlated with the NAR, CRP, PCT, IL-1β, and TNF-α ($p < 0.05$); NMCT was correlated with the depression ($p < 0.05$). In moderate/severe group, anxiety and depression were correlated with the NAR, NMCT, CRP, PCT, IL-1β, and TNF-α ($p < 0.05$). The correlation between anxiety and depression and nasal function and inflammatory factors in moderate/severe group were stronger than those in mild group.

Conclusion: The anxiety/depression and inflammation levels in AR patients increase, while the nasal function decreases, with the deteriorating severity of the disease. Anxiety and depression are correlated with nasal function and

inflammation levels, with a more prominent correlation detected in patients with moderate/severe AR than those with mild disease.
Keywords: allergic rhinitis; anxiety; depression; inflammatory; nasal function.

Supplementary info
MeSH terms, Substances, Grants and fundingExpand
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3
Clin Otolaryngol
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. 2026 Jan 28.
doi: 10.1111/coa.70094. Online ahead of print.
The Association Between Rhinitis Subtypes and Migraine: A Comparative Clinical Study
Emiş Cansu Yaka [1], Özlem Yağız Aghayarov [2], Papatya Bayrak Değirmenci [3]
Affiliations Expand
- PMID: 41605462
- DOI: 10.1111/coa.70094
Abstract
Objective: This cross-sectional analysis aimed to determine and compare the prevalence, severity, and associated disability of migraine in individuals with allergic rhinitis (AR), non-allergic rhinitis (NAR), and healthy controls.
Methods: In this prospective, cross-sectional study, 497 participants were enrolled: 200 with AR, 109 with NAR, and 188 controls. All participants underwent detailed assessment using the Total Rhinoconjunctivitis Score (TRS), Nasal Obstruction Symptom Evaluation (NOSE) scale, and were evaluated by a neurologist. Migraine was diagnosed according to ICHD-3 criteria. Migraine-related disability and impact were measured using the Migraine Disability Assessment (MIDAS) and Headache Impact Test-6 (HIT-6).
Results: The prevalence of migraine was significantly higher in the combined rhinitis group (24.9%) compared to controls (16.0%) (OR = 1.75, p = 0.018). When analysed separately, the AR group had the highest migraine prevalence (26.0%), followed by the NAR group (22.9%). Patients with AR and migraine exhibited significantly higher MIDAS and HIT-6 scores than controls and those with NAR ($p < 0.05$), indicating greater disability. Both AR and NAR groups had significantly worse TRS and NOSE scores than controls ($p < 0.001$).
Conclusions: Rhinitis, particularly the allergic subtype, is significantly associated with a higher prevalence and greater severity of migraine. These findings highlight the importance of integrated management of nasal and headache symptoms.
Keywords: allergic rhinitis; comorbidity; migraine.

- 22 references
Full text links


Cite
4
Am J Rhinol Allergy
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. 2026 Jan 27:19458924261416572.
doi: 10.1177/19458924261416572. Online ahead of print.

Reduced Numbers of Blood Dendritic Cell Antigen 3 Positive Dendritic Cells in the Nasal Mucosa Contribute to Severe Inflammation in Patients with Allergic Rhinitis and Chronic Rhinosinusitis

Dahee Shim [1], Tae-Gyun Kim [2], Yeeun Bak [3], Hyung-Ju Cho [4 5], Chang-Hoon Kim [4 5], Joo-Heon Yoon [4 5], Sang Chul Park [6]
Affiliations Expand

- PMID: 41589812
- DOI: 10.1177/19458924261416572

Abstract

BackgroundDendritic cells (DCs) are antigen-presenting cells that play a critical role in airway diseases by initiating and regulating immune responses. DCs are classified into plasmacytoid DCs (pDCs) and conventional DCs (cDCs), with the cDC lineage further divided into cDC1 and cDC2 subsets. Each subset exhibits distinct functions in immune regulation and disease pathogenesis. Thus, analyzing DC subsets is crucial for understanding the pathogenesis of airway diseases with diverse endotypes.ObjectiveAllergic rhinitis (AR) and chronic rhinosinusitis (CRS), further divided into eosinophilic CRS (ECRS) and non-eosinophilic CRS (NECRS), are typical upper airway diseases with diverse endotypes. AR and CRS often occur simultaneously, and their severity tends to increase when they are comorbid. To understand the endotypes of AR and CRS, we classified the presence or absence of AR and CRS, analyzed the changes in DC subsets in the nasal mucosa, and compared these results with clinical features.MethodsNasal polyp tissues and ethmoid mucosa were collected from 42 patients who underwent endoscopic sinus surgery. DC were analyzed by flow cytometry to detect the expression of blood DC antigen (BDCA)-1, BDCA-2, and BDCA-3.ResultsBDCA-3$^+$ cDC levels were significantly reduced in patients with both AR and CRS, compared to those with AR alone or CRS alone. This reduction was especially prominent in patients with ECRS, polysensitization, and total serum IgE ≥ 200 IU/mL. BDCA-3$^+$ cDC levels were also inversely correlated with preoperative computed tomography scores and serum eosinophil and immunoglobulin E levels.ConclusionBDCA-3$^+$ cDC levels may be involved in mucosal immune regulation and are associated with increased disease burden in patients with comorbid AR and ECRS.

Keywords: BDCA-3; allergic rhinitis; antigen-presenting cells; chronic rhinosinusitis; dendritic cells; eosinophilic chronic rhinosinusitis; flow cytometry; immune regulation; inflammation; nasal mucosa.

Plain language summary

Antigen-presenting cells called dendritic cells (DCs) are essential in conditions affecting the airways. These DC are separated into various subsets, each of which may play a special role and develop into sizable immune cell populations that regulate the etiology of illness. These various DC subsets may have distinct roles and mature into important immune cell populations that control disease

pathogenesis. As a result, studying DC subsets is essential to comprehending the pathophysiology of illnesses with various endotypes. Common upper airway diseases with a variety of endotypes are allergic rhinitis (AR) and chronic rhinosinusitis (CRS), which are further subdivided into eosinophilic CRS (ECRS) and non-eosinophilic CRS (NECRS). The severity of AR and CRS tends to increase when they co-exist, and they frequently happen at the same time. We categorized the presence or absence of AR and CRS, examined alterations in DC subsets in the nasal mucosa, and contrasted these findings with clinical characteristics in order to comprehend the endotypes of AR and CRS. 42 patients who had endoscopic sinus surgery had their nasal polyp tissues and ethmoid mucosa removed. Regardless of the presence of CRS, BDCA-1$^+$ cDC and BDCA-2$^+$ pDC levels were similar in subjects with AR. DC were examined using flow cytometry to identify the expression of blood DC antigen (BDCA)-1, BDCA-2, and BDCA-3. In comparison to patients without CRS, BDCA-3$^+$ cDC levels were considerably lower in CRS patients and even lower in ECRS patients than in NECRS patients. Patients with CRS and comorbid AR exhibited reduced BDCA-3$^+$ cDC levels, which were further decreased in those who were polysensitized. The mechanisms of severe inflammation in patients with AR and ECRS may be reflected in BDCA-3$^+$ cDC levels, which may be crucial for immunoregulation.

5
Int Forum Allergy Rhinol
. 2026 Jan 26.
doi: 10.1002/alr.70108. Online ahead of print.

Efficacy and Safety of Biologics, Allergen Immunotherapy, and Pharmacotherapies for Moderate-to-Severe Allergic Rhinitis: A Network Meta-Analysis

Zengxiao Zhang [1 2 3 4], Dandan Fang [1 2 3 4], Chengshuo Wang [1 2 3 4], Yuan Zhang [1 2 3 4], Luo Zhang [1 2 3 4]
Affiliations Expand

- PMID: 41587102
- DOI: 10.1002/alr.70108

Abstract

Background: The management of moderate-to-severe allergic rhinitis (AR) is challenging given numerous advanced therapies. A comparative, evidence-based treatment hierarchy to guide the selection of biologics, allergen immunotherapy (AIT), and advanced pharmacotherapies is critically lacking due to a paucity of head-to-head trials. This network meta-analysis established a treatment hierarchy for moderate-to-severe AR by comparing the efficacy and safety of biologics, AIT, and key pharmacotherapies.

Methods: We analyzed 28 randomized controlled trials (13,312 participants), which evaluated the efficacy and safety of biologics (anti-IgE, anti-IL-4Rα therapies), AIT (evaluated within a 6-month time frame to ensure comparability), and key pharmacotherapies (intranasal corticosteroids alone or combined with antihistamines) for moderate-to-severe AR. Efficacy was assessed by changes in

the Total Nasal Symptom Score (TNSS), the Total Ocular Symptom Score (TOSS), and the Rhinoconjunctivitis Quality of Life Questionnaire (RQLQ). A treatment hierarchy was established using surface under the cumulative ranking curve (SUCRA) probabilities.
Results: For the TNSS, anti-IL-4Rα therapy was most effective, followed by anti-IgE therapy and AIT, which surpassed all pharmacotherapies. The combination of intranasal corticosteroid and intranasal antihistamine ranked the highest for ocular symptoms. Anti-IL-4Rα therapy was also superior for improving the RQLQ. Overall, all treatments demonstrated a favorable safety profile. Biologics and AIT did not show a significant increase in adverse events risk compared to placebo.
Conclusions: This network meta-analysis establishes the first comprehensive treatment hierarchy for moderate-to-severe AR. Our findings demonstrate that biologics, particularly anti-IL-4Rα therapy, are the most effective interventions for nasal symptom control, ranking superior to AIT and pharmacotherapies, thus providing a robust, data-driven framework to personalize patient care.
Keywords: allergen immunotherapy; allergic rhinitis; biologics; network meta-analysis; treatment hierarchy.

- 59 references

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Curr Opin Otolaryngol Head Neck Surg

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. 2026 Feb 1;34(1):33-38.
doi: 10.1097/MOO.0000000000001103. Epub 2025 Dec 11.
The contemporary role of sinus surgery in managing cystic fibrosis
Rory J Lubner[1], Daniel M Beswick
Affiliations Expand
- PMID: 41410623

- DOI: 10.1097/MOO.0000000000001103
Abstract
Purpose of review: In this review, we summarize the current state of medical treatment for cystic fibrosis (CF) patients and how cystic fibrosis transmembrane conductance regulator (CFTR) modulator therapy has revolutionalized the landscape of CF management, including from a sinonasal perspective. We describe the indications for endoscopic sinus surgery (ESS), perioperative decisions otolaryngologists must consider, and the most effective surgical treatment approaches.
Recent findings: Effective CFTR modulator therapy reduces SNOT-22 scores as well as endoscopic and radiographic scores. In this era, surgical indications for people with CF and chronic rhinosinusitis (CRS) includes persistent, recalcitrant

symptoms despite medical interventions, including CFTR therapy. The decision to pursue surgery should incorporate sinus symptoms, as ESS solely for pulmonary function improvement remains controversial. When ESS is performed, extended approaches to the sinuses may be beneficial, although evidence in this area is limited.
Summary: Despite prominent advances in disease modifying therapies, ESS remains a treatment option to manage refractory sinonasal symptoms and CRS in people with CF who do not respond to medical therapy. The decision to pursue ESS remains individualized and should involve a multidisciplinary discussion between clinicians to optimize patient selection, surgical goals, and perioperative medical management.
Keywords: chronic rhinosinusitis; cystic fibrosis; endoscopic sinus surgery.

- 48 references

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. 2026 Feb 1:581:120776.
doi: 10.1016/j.cca.2025.120776. Epub 2025 Dec 6.

Rebalancing the inflammatory niche in allergic rhinitis "

Ning Wang [1], Yong Tang [2]
Affiliations Expand

- PMID: 41360358

- DOI: 10.1016/j.cca.2025.120776

Abstract
Allergic rhinitis (AR) may be driven in part by cross-talk between resident microbiota, microbe-derived small molecules, and tissue-resident group 2 innate lymphoid cells (ILC2s). In this review we focus on defined signaling axes by which Traditional Chinese Medicine (TCM) can influence that network: (1) microbially produced short-chain fatty acids (SCFAs), particularly butyrate, suppress ILC2 proliferation and type-2 cytokine output primarily via HDAC inhibition that downregulates the lineage transcription factor GATA3; receptor-dependent effects via the SCFA sensors FFAR3 (GPR41), FFAR2 (GPR43), and GPR109A (HCAR2) also occur in some cell types and tissues, and can engage β-arrestin/ERK or AMPK-linked pathways depending on cell context. In purified ILC2s, ex-vivo reductions in GATA3 and IL-13/IL-5 are observed at low micromolar to several hundred micromolar butyrate (human ILC2 ≈ 10 μM; murine ex-vivo ILC2 ≈ 200 μM), while viability is generally preserved below ~1 mM, indicating a physiologically plausible dose window for metabolite-driven modulation; (2) microbially modified secondary bile acids alter mucosal immune tone and epithelial function via FXR and TGR5

signaling; and (3) microbial tryptophan metabolites (indoles) act as aryl hydrocarbon receptor (AhR) ligands that preserve epithelial integrity and shape ILC3/ILC2 balance. We review preclinical and emerging clinical data suggesting that selected TCM formulas and phytochemicals (e.g., Gegen Qinlian Decoction, Astragalus polysaccharides, berberine, baicalin/baicalein, glycyrrhizin) are associated with (a) remodeling of gut and airway microbial communities and increases in SCFA or beneficial bile/indole pools in preclinical and some human studies, (b) measurable rises in systemic or luminal SCFAs in several models and limited human cohorts, and (c) direct attenuation of epithelial alarmin (TSLP/IL-33) signaling in cellular and animal models. Where human data exist, causality remains unproven and further mechanistic clinical investigation is required. Together these actions provide testable, mechanism-based routes to suppress ILC2 activation and restore mucosal homeostasis in AR. We explicitly link TCM-driven microbiome/metabolome changes to canonical molecular mediators (HDAC, GPR41/43, FXR/TGR5, AhR, TSLP/IL-33, HMGB1) to facilitate mechanistic trial design that measures taxa → metabolite → receptor/epithelial → ILC2 causal chains.

Keywords: AhR; Allergic rhinitis; Butyrate; FXR; GPR41; GPR43; HDAC; ILC2; Short-chain fatty acids; TGR5; Traditional Chinese medicine.

Conflict of interest statement

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

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. 2026 Feb;86(2):265-270.
doi: 10.1007/s40265-025-02255-0. Epub 2025 Dec 5.

Brensocatib: First Approval

Susan J Keam [1]

Affiliations Expand

- PMID: 41348269

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

Abstract

Brensocatib (BRINSUPRI™), an oral, small molecule, reversible inhibitor of dipeptidyl peptidase 1 (DPP1), is being developed by Insmed Incorporated under license from AstraZeneca for the treatment of neutrophil-mediated diseases, including non-cystic fibrosis bronchiectasis (NCFB), chronic rhinosinusitis without nasal polyps (CRSsNP) and hidradenitis suppurativa (HS). Brensocatib received its first approval on 12 August 2025 in the USA for the treatment of NCFB in adult and

paediatric patients 12 years of age and older. Brensocatib received a positive opinion in the EU on 17 Oct 2025 and is also under regulatory review in the UK for this indication. This article summarizes the milestones in the development of brensocatib leading to this first approval for the treatment of NCFB.

Conflict of interest statement

Declarations. Authorship and Conflict of Interest: During the peer review process the manufacturer of the agent under review was offered an opportunity to comment on the article. Changes resulting from any comments received were made by the authors on the basis of scientific completeness and accuracy. Susan J. Keam is a contracted employee of Adis International Ltd/Springer Nature, and declares no relevant conflicts of interest. All authors contributed to this article and are responsible for its content. Ethics Approval, Consent to Participate, Consent to Publish, Availability of Data and Material, Code Availability: Not applicable.

- 19 references

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Editorial

Immunol Allergy Clin North Am

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. 2026 Feb;46(1):xiii-xiv.

doi: 10.1016/j.iac.2025.10.001. Epub 2025 Oct 31.

Rhinitis and Sinusitis: A Comprehensive Updated Overview

Joshua S Bernstein [1], Jonathan A Bernstein [2]

Affiliations Expand

- PMID: 41241430

- DOI: 10.1016/j.iac.2025.10.001

No abstract available

Conflict of interest statement

Disclosures J.S. Bernstein - nothing to declare. J.A. Bernstein - Consultant: Opella, Sanofi - other COI not directly related to content include: Investigator and consultant: ADARx, Ajou University, Allergy therapeutics, Amgen, Apogee, Areteia, ARS, Astra Zeneca, Astria, Biocyrst, Blueprint Medicine, Celldex, Cogent, CSL Behring, Eli Lilly, Escient, Evommune, Fresenius Kabi, Genentech, GSK, Incyte, Intellia, Ionis, Japan Tobacco Company, Jasper, Kalvista, Kenvue, Kymeria, Kyowa Kirin, Medscape, Merck, Nasus, Neffy, Nektar, Neopharma, Novartis, Opella, Pharming, Pharvaris, Proctor and Gamble, Regeneron, Sanofi, Takeda/Shire, Telios, Teledoc, TEVA, Yuhan, WebMD news. Consultant: Enanta, Pfizer, RAPT. Speaker: Pharming, Kalvista, CSL Behring.

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Immunol Allergy Clin North Am
. 2026 Feb;46(1):97-109.
doi: 10.1016/j.iac.2025.09.007. Epub 2025 Oct 29.
Medical Management of Rhinitis: Medication Options
Sylvia Li [1], Marcus Shaker [2], Anju Peters [3]
Affiliations Expand
- PMID: 41241428
- DOI: 10.1016/j.iac.2025.09.007
Abstract
Pharmacologic treatment of rhinitis includes intranasal and oral therapies targeting inflammation and histamine activity. Intranasal corticosteroids and non-sedating antihistamines are first-line due to high efficacy and safety. Intranasal ipratropium, cromolyn, and decongestants offer symptom-specific relief. Oral medications such as antihistamines, leukotriene receptor antagonists, decongestants, and corticosteroids, vary in efficacy and side effects. Emerging therapies like biologics and CRTH2/DPP-4 inhibitors show promise in clinical and preclinical studies.
Keywords: Allergic; Nonallergic; Pharmacology; Rhinitis.

Conflict of interest statement
Disclosures S. Li: No disclosures. M.S. is a member of the Joint Task Force on Practice Parameters, serves on the editorial board of The Journal of Allergy and Clinical Immunology In Practice, is an associate editor of Annals of Allergy, Asthma & Immunology, and serves on the board of directors of the American Academy of Allergy, Asthma, and Immunology (views expressed are his own). A. Peters receives research support from AstraZeneca, Insmed, Sanofi Regeneron, Aretia, and Eli Lilly and consults for Astra Zeneca, Sanofi Regeneron, Eli Lilly, GSK, Chiesi, and Novartis.
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Review

Immunol Allergy Clin North Am

. 2026 Feb;46(1):69-80.
doi: 10.1016/j.iac.2025.09.005. Epub 2025 Oct 29.
Diagnosis of Acute, Chronic (with and without Nasal Polyps), and Fungal Sinusitis
Katie M Phillips [1], Fuad M Baroody [2], Jamie Rosado Alicea [3], Ahmad R Sedaghat [4], Tanya M Laidlaw [3]
Affiliations Expand
- PMID: 41241426
- DOI: 10.1016/j.iac.2025.09.005
Abstract
Rhinosinusitis is a spectrum of diseases with varied causes, presentations, and diagnostic approaches-from viral and bacterial acute rhinosinusitis to chronic inflammatory or fungal etiologies. This article reviews the diagnosis of acute, chronic, recurrent, and fungal rhinosinusitis, highlighting key clinical, endoscopic, and radiologic features that distinguish these entities. It provides practical guidance on differentiating viral from bacterial causes, assessing chronic inflammation with and without polyps, and recognizing rare but serious fungal infections. It also explores emerging diagnostic tools such as biomarkers and artificial intelligence that are reshaping personalized care in sinusitis.
Keywords: Acute sinusitis; Biomarkers; Chronic rhinosinusitis; Endoscopic diagnosis; Fungal sinusitis; Nasal polyps; Rhinosinusitis; Sinus CT imaging.

Conflict of interest statement
Disclosure K.M. Phillips: Consultant with Aerin Medical, Medical Advisory Board with Glaxo-SmithKline and Sanofi/Regeneron, Equity in Sound Health. F.M. Baroody: None. J.R. Alicea: None. A.R. Sedaghat: Research funding from Aerin Medical and Regeneron. T.M. Laidlaw: served on scientific advisory boards for Glaxo-SmithKline, Sanofi-Genzyme, AstraZeneca, Eli Lilly, and Regeneron.
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Immunol Allergy Clin North Am
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. 2026 Feb;46(1):49-67.
doi: 10.1016/j.iac.2025.09.004. Epub 2025 Oct 31.
Occupational Rhinitis
Joshua S Bernstein [1], Kaleb Ware [2], José Zamora-Sifuentes [3], Jill A Poole [4], Dennis Shusterman [5]
Affiliations Expand
- PMID: 41241425
- DOI: 10.1016/j.iac.2025.09.004
Abstract

Occupational rhinitis is a frequently underdiagnosed condition that can cause patient morbidity, potentially progress to asthma, and result in economic hardship for both the individual and the workforce. It is important to screen for work-related exposures and have knowledge of high molecular weight and low molecular weight agents in the workplace, as well as common occupational irritants. Having a methodical diagnostic approach, understanding primary, secondary, and tertiary prevention measures, recognizing comorbid disease and utilizing targeted management strategies will, in all likelihood, improve patient outcomes. Challenging cases may require co-management of Allergy with both Primary Care and Occupational Medicine.

Keywords: Allergy; Diagnosis; Irritation; Management; Occupational rhinitis; Work exposure; Work-related rhinitis.

Conflict of interest statement

Disclosure J.A. Poole has received research reagents (no monies) from AstraZeneca, United Kingdom and has served as a site recruiter for clinical industry studies for asthma, sinus disease, and urticaria with GlaxoSmithKline, AstraZeneca, Regeneron Pharmaceuticals, and CellDex Therapeutics in the past 5 years. All other authors with no disclosures.

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. 2026 Feb;46(1):27-48.

doi: 10.1016/j.iac.2025.09.003. Epub 2025 Oct 23.

The Diagnosis of Non-Allergic Rhinitis

Julie van Waterschoot [1], Laura Van Gerven [2], Scott Pfirrman [3], Justin Greiwe [4], Jonathan A Bernstein [5]

Affiliations Expand

- PMID: 41241424

- DOI: 10.1016/j.iac.2025.09.003

Abstract

Diagnosis of nonallergic rhinitis (NAR) is made after excluding other etiologies of rhinitis symptoms, such as allergic rhinitis or local allergic rhinitis (LAR). A thorough clinical history, examination and negative allergy tests-skin prick test or specific IgE-are essential. Special focus should go to symptom patterns, triggers, and comorbidities. Additional diagnostic tools include nasal allergen provocation tests for LAR, cold dry air provocation for idiopathic rhinitis, and nasal cytology to identify inflammatory cell patterns and NAR with eosinophilia syndrome. Accurate diagnosis is crucial to distinguish NAR subtypes and ensure appropriate management strategies.

Keywords: Diagnosis; Drug-induced rhinitis; Gustatory rhinitis; Hormonal rhinitis; Idiopathic rhinitis; NARES; Nasal hyperresponsiveness; Nonallergic rhinitis.

Conflict of interest statement
Disclosure The authors (S. Pfirrman, J.van Waterschoot, and L. Van Gerven) have nothing to disclose. Dr J. Greiwe serves on the Speakers Bureau for AbbVie, AstraZeneca, Amgen, Incyte, Genentech, Regeneron, and Sanofi Genzyme. Dr J. Greiwe serves on advisory boards for AbbVie, AstraZeneca, Amgen, DBV, Dermavant, Incyte, Genentech, Novartis, Regeneron, and Sanofi Genzyme. Dr J.A. Bernstein is an investigator and consultant: Novartis, Genentech, Sanofi, Regeneron, Celldex, Cogent, Blueprint Medicine, Telios, Astra Zeneca, GSK, Takeda/Shire, CSL Behring, Pharming, Biocyrst, Astria, Intellia, AraRx. Kalvista, Pharvaris, Amgen, Areteia, Allergy therapeutics, Apogee, Opella, Ajou University, Kyowa Kirin, ARS, Eli Lilly, Escient, Evommune, Jasper, TEVA, Yuhan. Consultant: Pfizer, Enanta, RAPT. Speaker: Pharming, Kalvista, CSL Pharming.
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Review

Immunol Allergy Clin North Am
. 2026 Feb;46(1):161-176.
doi: 10.1016/j.iac.2025.09.011. Epub 2025 Oct 31.
Updates on Artificial Intelligence-Assisted Allergic Rhinitis and its Impact on Asthma Care Pathways
Désirée Larenas-Linnemann [1], Marnix V Martínez-Larenas [2], Juan F Iñigo-Padilla [2], Jean Bousquet [3], Bernardo Sousa-Pinto [4], Jorge A Luna-Pech [5]
Affiliations Expand
- PMID: 41241423
- DOI: 10.1016/j.iac.2025.09.011
Abstract
The use of artificial intelligence (AI) in medicine has been growing steadily over the past decade, but it has not been until the past few years that it has been employed officially in many different medical environments, from AI-assisted diagnosis to therapeutic decisions and even AI-assisted interventions. The Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines have always been at the avant-garde in embracing new techniques in guideline development since its conception. We present a narrative review of ARIA's developmental stages, particularly focusing on the final one: the integration of AI in the development of the latest update.
Keywords: ARIA; Allergic conjunctivitis; Allergic rhinitis; Artificial intelligence; Asthma; Guideline.

Conflict of interest statement

Disclosure D. Larenas-Linnemann reports personal fees from ALK, Armstrong, AstraZeneca national and global, Bayer, Chiesi, Grünenthal, Grin, GSK national and global, Viatris, Menarini, MSD, Novartis, Pfizer, Sanofi, Siegfried, Carnot, and Syneos Health; grants from Abbvie, Bayer, Lilly, Sanofi, AstraZeneca, Pfizer, Novartis, Pulmonair, GSK, Chiesi, and Biopharma, outside the submitted work. J. Bousquet reports personal fees from Cipla, Menarini, Mylan, Novartis, Purina, Sanofi, Teva, Uriach, other from KYomed-Innov, and other from Mask-air-SAS. M.V. Martínez-Larenas, J.F. Iñigo-Padilla, B. Sousa-Pinto, and J.A. Luna-Pech have no COIs to declare.
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Immunol Allergy Clin North Am
. 2026 Feb;46(1):145-160.
doi: 10.1016/j.iac.2025.09.010. Epub 2025 Oct 30.
Management of Chronic Rhinosinusitis with or Without Nasal Polyposis
Dylan Vance [1], Seong Cho [2], Amber U Luong [3], Dennis K Ledford [4]
Affiliations Expand
- PMID: 41241422
- DOI: 10.1016/j.iac.2025.09.010
Abstract
Chronic rhinosinusitis (CRS) is a complex disease with multiple phenotypes. The primary phenotypic division is CRS with nasal polyps (CRSwNP) and CRS without nasal polyps (CRSsNP). The majority of patients with CRSwNP have type 2 inflammatory disease characterized by eosinophilic inflammation and type 2 cytokines (primarily interleukin-4, 5, and 13). CRS is not primarily an infectious problem, although viral and bacterial infections or dysbiosis may exacerbate the disease. There is an association of CRS with asthma, particularly CRSwNP. Treatment of the CRS benefits asthma.
Keywords: Chronic sinusitis; Nasal polyps; Polyposis; Sinusitis; Type 2.

Conflict of interest statement
Disclosure
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. 2026 Feb;46(1):13-26.
doi: 10.1016/j.iac.2025.09.002. Epub 2025 Oct 30.

Diagnosing Allergic Rhinitis and Local Allergic Rhinitis

Anne K Ellis [1], Sophia Linton [2]
Affiliations Expand

- PMID: 41241421

- DOI: 10.1016/j.iac.2025.09.002

Abstract
Allergic rhinitis (AR) is a prevalent atopic condition commonly diagnosed based on clinical history and confirmed through skin prick testing or serum-specific immunoglobulin-E (sIgE) measurements. However, some patients present with classic AR symptoms despite negative results on conventional allergy tests, a phenomenon now recognized as local allergic rhinitis (LAR). LAR is characterized by localized IgE production within the nasal mucosa and is diagnosed using nasal allergen provocation testing alongside detection of nasal sIgE. This article provides an overview of current diagnostic approaches for AR and explores the emerging insights into the identification and diagnosis of LAR.

Keywords: Allergic rhinitis; Local allergic rhinitis; Nasal allergen provocation test; Nasal-specific immunoglobulin-E; Serum-specific immunoglobulin-E; Skin prick test.

Conflict of interest statement
Disclosure In the past 2 years, Dr A.K. Ellis has participant in advisory boards for AstraZeneca, Celltrion Pharmaceuticals, GSK, Novartis, and Sanofi. She has been a speaker for ALK Abello, AstraZeneca, COVIS Pharma, GSK, Medexus, Novartis, Regeneron Inc, and Sanofi. Her institution has received research grants from ALK-Abelló, Denmark, AstraZeneca, United Kingdom, Celldex Theraputics, Inimmune, Merck Canada, Canada, Novartis, Switzerland, Regeneron, United States, and Sanofi, United States. She has served as an independent consultant in the past to Orexo, Regeneron Pharmaceuticals Inc, and Bayer Consumer Health. S. Linton has nothing to disclose.

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Immunol Allergy Clin North Am

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. 2026 Feb;46(1):111-124.
doi: 10.1016/j.iac.2025.09.008.
Immunotherapy in Allergic and Mixed Rhinitis
Tolly Epstein [1], David I Bernstein [2]
Affiliations Expand
- PMID: 41241419
- DOI: 10.1016/j.iac.2025.09.008
Abstract
Allergen immunotherapy is the only treatment modality that can modify severity of allergic rhinitis. Subcutaneous immunotherapy (SCIT) and sublingual immunotherapy (SLIT) are both effective treatment options. SLIT has a better safety profile with rare reports of systemic reaction events. In this article, we will review evidence pertaining to efficacy of individual treatment allergens and assess relative efficacy and safety of SLIT versus SCIT.
Keywords: Allergen immunotherapy; Safety efficacy allergic rhinitis asthma; Subcutaneous immunotherapy; Sublingual immunotherapy.

Conflict of interest statement
Disclosure David I. Bernstein, MD: Grant support from Amgen, AstraZeneca, Genentech, GlaxoSmithKline, Novartis, Regeneron, Sanofi, and TEVA and served as an advisor for ARS, Aquestive Therapeutics, and Bryn. Tolly Epstein, MD, MS: None.
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. 2026 Feb;46(1):1-11.
doi: 10.1016/j.iac.2025.09.001. Epub 2025 Oct 23.
Pathophysiology of Chronic Rhinitis and Chronic Sinusitis With and Without Nasal Polyposis
S Shahzad Mustafa [1], Isaac Schmale [2], Li-Xing Man [2]
Affiliations Expand
- PMID: 41241418
- DOI: 10.1016/j.iac.2025.09.001
Abstract
This article covers the pathophysiology of chronic rhinitis and chronic rhinosinusitis (CRS), focusing on both phenotypic and endotypic distinctions. It highlights how genetic and environmental factors contribute to disease development, emphasizing the roles of epithelial barrier dysfunction and microbiome disruption. The article categorizes CRS into forms with and without nasal polyps, each involving unique immune responses and inflammation types.

Specific endotypes are also discussed, highlighting the complexity and heterogeneity of these conditions.

Keywords: Allergic rhinitis; CRSsNP; CRSwNP; Chronic rhinitis; Chronic rhinosinusitis; Chronic sinusitis; Microbiome; Nasal polyposis.

Conflict of interest statement

Disclosures S.S. Mustafa—Speakers Bureau: Genentech, AstraZeneca, GlaxoSmithKline, Regeneron, CSL Behring, ARS Pharma; Grants: Takeda. I. Schmale—Serves as site Principal Investigator for a study by Lyra Therapeutics with fees paid to the institution. L.-X. Man—Speakers Bureau: GlaxoSmithKline; serves as site principal investigator for studies by AstraZeneca, GlaxoSmithKline, Optinose, and Sanofi, with fees paid to the institution.

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. 2026 Feb 1;34(1):1-7.

doi: 10.1097/MOO.0000000000001095. Epub 2025 Oct 14.

Current perspectives on rhinitis, postnasal drip, and cough

Kawita Atipas [1], Triphoom Suwanwech [1], Dichapong Kanjanawasee [2 3], Navarat Kasemsuk [1], Pongsakorn Tantilipikorn [1 2]

Affiliations Expand

- PMID: 41100852

- DOI: 10.1097/MOO.0000000000001095

Abstract

Purpose of review: This review explores the pathogenesis, diagnosis, and treatment of cough caused by rhinitis and related conditions, emphasizing new advancements.

Recent findings: Upper airway cough involves multiple inflammatory and neurogenic mechanisms, including postnasal drip stimulation of cough receptors, inflammatory mediator release, and sensory neural hypersensitivity. Diagnosis requires comprehensive clinical evaluation, with increasing emphasis on identifying specific disease endotypes. Management has expanded from conventional therapies to include biologics and targeted procedures, while emerging treatments provide additional options for refractory cases.

Summary: Chronic cough frequently results from upper airway conditions, including allergic rhinitis, nonallergic rhinitis, chronic rhinosinusitis, and postviral cough. Diagnosis and treatment depend on symptom assessment, endoscopy, imaging, and biomarkers. Management targets the underlying etiology through pharmacotherapy, immunotherapy, and procedural interventions; however, further

research remains essential to optimize understanding and treatment of affected patients.

Keywords: chronic cough; postnasal drip; rhinitis; upper airway cough syndrome.

- 88 references

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Curr Opin Otolaryngol Head Neck Surg

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. 2026 Feb 1;34(1):28-32.

doi: 10.1097/MOO.0000000000001096. Epub 2025 Oct 14.

Defining and managing acute exacerbations of chronic rhinosinusitis

Keeler Kime [1], Ahmad R Sedaghat, Katie M Phillips

Affiliations Expand

- PMID: 41086284

- DOI: 10.1097/MOO.0000000000001096

Abstract

Purpose of review: Currently, no universally accepted definition or management strategy for chronic rhinosinusitis (CRS) and its acute exacerbations (AECRS) exists. This review aims to provide an overview of the current research in this field and to present recent advances in diagnosis and management.

Recent findings: A variant in the CDHR3 gene has been identified as a risk factor for AECRS, associated with increased viral replication, type-2 cytokine upregulation, and downregulation of Toll-like receptor mediated responses. Microbiome studies show that patients with AECRS are more likely to harbor rare microbial taxa, and most strains isolated during exacerbations form biofilms. Biologic therapies targeting type-2 inflammation have reduced exacerbation rates and decreased the need for antibiotics and systemic corticosteroids. Culture-directed antibiotics may improve longer-term endoscopic outcomes, though short-term symptom and quality-of-life benefits remain unclear. Cost-effectiveness modeling suggests observation is usually the most efficient initial strategy, unless the probability of bacterial etiology exceeds ~49%. In addition, a new patient-informed definition of AECRS has been proposed, although further validation is needed.

Summary: Advances in genetics, microbiome analysis, and biologic therapy offer promising avenues, yet definitions and outcome measures remain inconsistent. Robust, long-term studies are still needed to harmonize definitions and standardize management.

Keywords: acute exacerbations; biologic therapy; chronic rhinosinusitis; oral antibiotics; systemic corticosteroids.

- 33 references

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Review

Curr Opin Otolaryngol Head Neck Surg
. 2026 Feb 1;34(1):39-46.
doi: 10.1097/MOO.0000000000001089. Epub 2025 Oct 8.
What can we learn about chronic rhinosinusitis through mucus?
Carl Atkinson [1], Jennifer K Mulligan [2]
Affiliations Expand
PMID: 41066157
DOI: 10.1097/MOO.0000000000001089
Abstract
Purpose of review: Sinonasal mucus biomarkers have emerged as a powerful, noninvasive tool to better understand the immunopathology of chronic rhinosinusitis (CRS). This review highlights the evolving role of mucus biomarkers as they move from discovery-phase research toward potential clinical implementation and identifies critical gaps that must be addressed before their integration into routine decision-making.
Recent findings: Mucus biomarkers provide valuable insights into CRS endotypes, disease severity, olfactory dysfunction, and potentially biologic choice. Recent studies have shown associations between mucus cytokine and protein profiles with postoperative olfactory recovery, polyp recurrence, and responsiveness to biologic therapy. Advances in collection devices hold potential to standardize sampling methods, while machine learning approaches are increasingly being applied to high-dimensional biomarker datasets, improving the ability to predict outcomes and guide therapy selection. Despite these advances, unresolved challenges include optimal sampling site, assay standardization, and prospective validation in clinical trials.
Summary: Mucus biomarkers are transforming our understanding of CRS by linking local immune dysfunction with clinical manifestations, such as quality-of-life impairment, olfactory loss, and disease recurrence. With continued refinement, integration of mucus biomarker profiling with machine learning and clinical datasets may enable precision diagnostics and personalized treatment strategies for CRS.
Keywords: biomarker; chronic sinusitis; machine learning; mucus; olfaction.

33 references
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Ann Otol Rhinol Laryngol
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. 2026 Feb;135(2):134-139.
doi: 10.1177/00034894251374839. Epub 2025 Oct 6.
Elexacaftor/Tezacaftor/Ivacaftor Improves Sinonasal Disease in Young Patients With Cystic Fibrosis: A Prospective Study
Theodoros Pantazopoulos [1], Ioanna Zarkada [2], Antonia Arvaniti [1], Vasilios Chalkiadakis [1], Abraham Pouliakis [3], Maria Moustaki [2], Argyri Petrocheilou [2], Evgenia Troupi [2], Nektarios Papapetropoulos [1], Ioanna Loukou [2]
Affiliations Expand
- PMID: 41051141
- DOI: 10.1177/00034894251374839
Abstract
Objectives: Chronic rhinosinusitis is common among patients with cystic fibrosis (CF) and often significantly impacts their quality of life. The introduction of CFTR modulators, particularly the triple therapy of elexacaftor/tezacaftor/ivacaftor (ETI), appears to alleviate these symptoms. This study aims to evaluate the effect of this therapy on children and adolescents under 20 years of age with cystic fibrosis and concurrent chronic rhinosinusitis.
Methods: A prospective single-institution study was conducted. Patients were evaluated before starting treatment with ETI and after a median period of 3 months of therapy. Nasal endoscopy findings were recorded using the modified Lund-Kennedy score. Additionally, the Sinonasal Outcome Test-22 (SNOT-22), validated for Greek patients, was administered.
Results: A total of 15 patients participated in the study, with a median age of 18 years, ranging from 14 to 20 years. Seven patients (46.7%) were male, and 8 (53.3%) were female. Analysis of the SNOT-22 scores before and after treatment showed no statistically significant difference ($P = .325$). However, the analysis of the modified Lund-Kennedy scores revealed a statistically significant improvement after a median period of 3 months of treatment ($P = .002$).
Conclusion: Patients with cystic fibrosis (CF) often suffer from chronic rhinosinusitis. The highly effective modulator therapy with ETI appears to result in a statistically significant improvement in sinonasal disease as assessed by nasal endoscopy. Conversely, this innovative therapy does not seem to improve the quality of life for CF patients experiencing rhinosinusitis symptoms, likely due to the few preexisting symptoms before initiation of the therapy.
Keywords: SNOT-22; chronic rhinosinusitis; cystic fibrosis; elexacaftor/tezacaftor/ivacaftor; modified Lund-Kennedy scale.
Conflict of interest statement
Declaration of Conflicting InterestsThe authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Observational Study

Laryngoscope
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. 2026 Feb;136(2):669-677.
doi: 10.1002/lary.70083. Epub 2025 Aug 26.

Chronic Rhinosinusitis With Nasal Polyps: The Effectiveness of Dupilumab in Mixed Endotypes

Giancarlo Pecorari [1], Anastasia Urbanelli [1], Marco Garetto [1], Arianna Borro [1], Nicola Rotolone [1], Alberto Tosello [1], Davide Ferrero [1], Giuseppe Riva [1]
Affiliations Expand

PMID: 40856039
DOI: 10.1002/lary.70083

Abstract
Objective: Chronic rhinosinusitis with nasal polyps (CRSwNP) is a complex and heterogeneous condition. Cluster analyses identified mixed endotypes underlying CRSwNP, characterized by overlapping inflammatory markers, such as the co-expression of T2 and neutrophilic markers. The aim of this prospective observational study was to evaluate the effectiveness of dupilumab for CRSwNP in a real-life setting, comparing different nasal endotypes.
Methods: Thirty-one patients with uncontrolled type 2 CRSwNP who underwent biologic therapy with dupilumab were included. Endoscopic examinations, nasal cytology, smell (Visual Analogue Scale-VAS), blood eosinophils, evaluation of quality of life (SNOT-22 questionnaire), and asthma severity (Asthma Control Test-ACT) were performed before starting the treatment (T0) and after 3 (T1), 6 (T2), and 12 months (T3).
Results: A mixed endotype (neutrophil and eosinophil) was observed in 51.6% of cases at T0. An increase of neutrophil infiltrate between T0 and T3 was observed in 51.6% of patients. Such an increase could be present both in patients with a mixed endotype and pure eosinophil endotype at T0. A smaller improvement was observed for SNOT-22 physical symptoms, SNOT-22 nasal symptoms, SNOT-22 total score, and VAS for smell loss in patients with a neutrophil increase. However, such individuals had lower scores in these parameters at T0 and then reached the values of other subjects at T3.
Conclusion: Dupilumab is an effective treatment also in mixed neutrophil-eosinophil endotypes. A peculiar clinical condition with fewer symptoms and better quality of life is present in patients that will have a neutrophil increase at nasal cytology during the treatment.

Keywords: chronic rhinosinusitis; dupilumab; endotype; nasal cytology; nasal polyposis; neutrophil.

26 references
Supplementary info
Publication types, MeSH terms, SubstancesExpand
Full text links

Cite
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Ear Nose Throat J
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. 2026 Feb;105(2):NP113-NP119.
doi: 10.1177/01455613231185065. Epub 2023 Jul 8.
Correlation of Multiple Allergen Simultaneous Test with Nasal Provocation Test of House Dust Mite
Kyung Soo Kim [1], Hyun Jin Min [1]
Affiliations Expand
- PMID: 37421257
- DOI: 10.1177/01455613231185065
Free article
Abstract
Objectives: Compared with the skin prick test, relationship between the multiple allergen simultaneous test (MAST) and nasal provocation test (NPT) has rarely been evaluated. We evaluated the relationship between the results of the MAST and NPT against house dust mites in the Korean population. Methods: Medical records of patients who underwent both MAST and NPT were reviewed. Positive MAST was diagnosed when the levels of immunoglobulin E (IgE) specific for *Dermatophagoides farinae* (DF) and *Dermatophagoides pteronyssinus* (DP) were ≥2 positivity or ≥0.70 IU/ml. During the NPT, changes in subjective symptoms, including nasal obstruction, rhinorrhea, sneezing, itching, ocular discomfort, and peak nasal inspiratory flow (PNIF), were measured. The correlation between NPT and MAST results was statistically analyzed. Results: A total of 96 participants were enrolled in this study: 26 were assigned to the MAST-positive group, and 70 were assigned to the MAST-negative group. Changes in subjective symptoms before and after the nasal allergen challenge were significantly associated with the MAST results. Changes in PNIF before and after the nasal allergen challenge were also significantly associated with the MAST results. We found that a cutoff value of "a subjective total nasal symptom change" of more than 17.5 had a sensitivity of 68.6% and a specificity of 69.2%, while a cutoff value of "a PNIF change" of more than 6.51 had a sensitivity of 67.1% and a specificity of 69.2%. Conclusion: NPT was significantly associated with MAST, and further studies regarding the relationship between NPT using various allergen conditions and MAST are warranted.
Keywords: allergic rhinitis; correlation; diagnosis; nasal provocation tests.
Conflict of interest statement
Declaration of Conflicting InterestsThe author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.
Supplementary info
Publication types, MeSH terms, Substances

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

1

Int J Tuberc Lung Dis

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. 2026 Jan 30;30(2):86-87.

doi: 10.5588/ijtld.25.0431.

Artificial intelligence-based TB screening using hybrid acoustic features of a patient's cough

A Kawadia, M Moitra, H Patel

- PMID: 41618108

- DOI: 10.5588/ijtld.25.0431

No abstract available

Full text links

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Cite

2

Review

BMC Gastroenterol

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. 2026 Jan 30.

doi: 10.1186/s12876-026-04643-6. Online ahead of print.

Laryngopharyngeal reflux current developments and therapeutic strategies

Sara Treat [1], Michael F Vaezi [2]

Affiliations Expand

- **PMID: 41612189**

- **DOI: 10.1186/s12876-026-04643-6**

Free article

No abstract available

Keywords: Chronic cough; Extraesophageal reflux disease; GERD or GORD; Laryngopharyngeal reflux.

Conflict of interest statement

Declarations. Ethics approval and consent to participate: Not applicable. Consent for publication: Not applicable. Competing interests: Vanderbilt University and Diversatek Healthcare Inc. (Denver, CO, USA) jointly hold a patent on the mucosal integrity testing (MIT) device. MFV has had research funding from Diversatek Healthcare in the conduct of studies with mucosal integrity testing. He is also a consultant to Phathom, IsoThrive and Sanofi Pharmaceuticals, as well he is a consultant on litigations on role of acid suppressive therapies and adverse events. Dr. Treat has no disclosures or relationships.

- **107 references**

Supplementary info

Publication typesExpand

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3

Laryngoscope

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. 2026 Jan 26.

doi: 10.1002/lary.70393. Online ahead of print.

Decoding Gender in Cough Sounds: A Transformer-Based Analysis

Linh He [1], Haomiao Li [2], Siyan Wang [2], Eunice Baik [3], Sarah Kervin [1], Robin Zhao [1], John M Ramos [1]; Bridge2AI-Voice Consortium; Joseph Colonel [4], Anaïs Rameau [1]

Collaborators, Affiliations Expand

- PMID: 41588706

- DOI: 10.1002/lary.70393

Abstract

Objective: Various components of speech, such as pitch, volume, and resonance, influence gender perception, but little is known about gender differences in non-speech upper airway sounds such as cough. This gap has implications for gender-affirming voice care, as coughs are harder to modulate. We aimed to explore how cough acoustics differ by gender using a transformer model with self-attention to identify salient cough features for gender classification.

Methods: We analyzed 327 cough recordings (154 male, 173 female) from the Coswara dataset, using a 70/15/15 split for model training, validation, and testing. Preprocessing included resampling, silence removal, normalization, and trimming to uniform length. The HuBERT transformer model was used for its ability to handle unstructured audio. Gender balance was verified through SMD (standardized mean difference) screening across seven variables, all of which showed negligible imbalance.

Results: On the held-out test set, the model achieved an accuracy of 84.0% with an F1 score of 0.8462 when classifying gender from cough series, compared to 71.4% accuracy and an F1 score of 0.7308 when using single-cough/first-cough samples. Attention-aligned cough visualization revealed the highest attention on the explosive phases of the cough, suggesting that these segments encapsulate the most salient gender-distinct acoustic cues.

Conclusion: Cough sounds contain gender-discriminative features detectable by transformer models. Attention to specific cough phases reveals physiologically meaningful segments in cough sounds supporting gender classification. These insights may inform gender-affirming interventions, particularly for non-speech sound production. Future research should explore further socio-demographic factors shaping cough acoustics.

Keywords: AI; cough; gender.

- 77 references

Supplementary info

Grants and fundingExpand

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4

JAMA

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. 2026 Jan 27;335(4):298-299.

doi: 10.1001/jama.2025.23006.

PAHO Urges Vaccination as Whooping Cough Surges in the Americas

Samantha Anderer

- PMID: 41481318

- DOI: 10.1001/jama.2025.23006

No abstract available

Full text links

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Cite

5

Meta-Analysis

Paediatr Anaesth

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. 2026 Feb;36(2):151-163.

doi: 10.1111/pan.70077. Epub 2025 Nov 11.

Topical Lidocaine During Airway Manipulation in Pediatric Anesthesia: A Systematic Review and Meta-Analysis

Elizabet Taylor Pimenta Weba [1], Gabriel Soares de Sousa [2 3 4], Alexandros Páris de Mesquita Ipácio [1], Christian Ken Fukunaga [5], Rafael Andrade Sampaio Silva [6], Marco Antonio Figueiredo Teixeira [7], Rafaela Machado Filardi [8], Carolina Magalhães Costa [9 10], Ricardo Vieira Carlos [2 3], Britta S von Ungern-Sternberg [11 12 13 14]

Affiliations Expand

- PMID: 41216993
- PMCID: PMC12779226
- DOI: 10.1111/pan.70077

Abstract

Introduction: Lidocaine is widely used in pediatric anesthesia for airway topicalization to modulate undesirable airway and circulatory reflexes, yet its effectiveness remains unclear. Therefore, we aimed to perform a meta-analysis evaluating the impact of topical lidocaine on respiratory adverse events in children undergoing airway management.

Methods: PubMed, Embase, and Cochrane databases were systematically searched for studies comparing topical lidocaine with placebo, no intervention, or intravenous lidocaine for pediatric airway management. Statistical analysis was performed using R (version 4.4.1). Odds ratios (ORs) were used for binary outcomes and mean differences for continuous outcomes, with 95% confidence intervals (CIs) computed using a random-effects model.

Results: Fourteen randomized controlled trials comprising 1937 pediatric patients were included, of whom 917 (47%) received airway topicalization. In those receiving topical lidocaine, there was a significant reduction in the incidence of laryngospasm (OR 0.50; 95% CI 0.27 to 0.95; p = 0.033), desaturation (OR 0.49; 95% CI 0.25 to 0.98; p = 0.043), and sore throat (OR 0.31; 95% CI 0.16 to 0.58; p < 0.001). However, no significant differences were observed for bronchospasm (OR 0.50; 95% CI 0.11 to 2.35; p = 0.382), cough (OR 0.56; 95% CI 0.28 to 1.11; p = 0.099), severe cough (OR 1.30; 95% CI 0.18 to 9.51; p = 0.793), hoarseness (OR 1.41; 95% CI 0.17 to 11.96; p = 0.754), vomiting (OR 1.95; 95% CI 0.47 to 7.99; p = 0.355), and heart rate (beats/min) (MD 0.08; 95% CI -6.31 to 6.47; p = 0.98).

Conclusion: Our findings suggest that topical lidocaine may reduce the incidence of undesirable airway reflexes such as laryngospasm, desaturation, and sore throat in children undergoing airway management. However, its benefit for other perioperative respiratory adverse events requires further investigation, especially in high-risk populations.

Trial registration: PROSPERO registration number: CRD42024614863.

Keywords: adverse events; airway management; lidocaine; pediatric anesthesia; topical drug administration.

Conflict of interest statement

Britta S. von Ungern-Sternberg is a section editor for Pediatric Anesthesia. None of the other authors has any conflicts of interest to disclose.

- 49 references
- 5 figures

Supplementary info

Publication types, MeSH terms, Substances, Grants and fundingExpand

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6

Review

Curr Opin Otolaryngol Head Neck Surg

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. 2026 Feb 1;34(1):1-7.

doi: 10.1097/MOO.0000000000001095. Epub 2025 Oct 14.

Current perspectives on rhinitis, postnasal drip, and cough

Kawita Atipas [1], Triphoom Suwanwech [1], Dichapong Kanjanawasee [2 3], Navarat Kasemsuk [1], Pongsakorn Tantilipikorn [1 2]

Affiliations Expand

- **PMID: 41100852**
- **DOI: 10.1097/MOO.0000000000001095**

Abstract

Purpose of review: This review explores the pathogenesis, diagnosis, and treatment of cough caused by rhinitis and related conditions, emphasizing new advancements.

Recent findings: Upper airway cough involves multiple inflammatory and neurogenic mechanisms, including postnasal drip stimulation of cough receptors, inflammatory mediator release, and sensory neural hypersensitivity. Diagnosis requires comprehensive clinical evaluation, with increasing emphasis on identifying specific disease endotypes. Management has expanded from conventional therapies to include biologics and targeted procedures, while emerging treatments provide additional options for refractory cases.

Summary: Chronic cough frequently results from upper airway conditions, including allergic rhinitis, nonallergic rhinitis, chronic rhinosinusitis, and postviral cough. Diagnosis and treatment depend on symptom assessment, endoscopy, imaging, and biomarkers. Management targets the underlying etiology through pharmacotherapy, immunotherapy, and procedural interventions; however, further research remains essential to optimize understanding and treatment of affected patients.

Keywords: chronic cough; postnasal drip; rhinitis; upper airway cough syndrome.

- **88 references**

Supplementary info

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7

Review

Am J Gastroenterol

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. 2026 Feb 1;121(2):322-336.

doi: 10.14309/ajg.0000000000003482. Epub 2025 Apr 8.

The San Diego Consensus for Laryngopharyngeal Symptoms and Laryngopharyngeal Reflux Disease

Rena Yadlapati [1], Philip Weissbrod [2], Erin Walsh [2], Thomas L Carroll [3 4], Walter W Chan [5], Jackie Gartner-Schmidt [6], Livia Guadagnoli [7], Marie Jette [8], Jennifer C Myers [9], Ashli O'Rourke [10], Rami Sweis [11], Justin Wu [12], Julie M Barkmeier-Kraemer [13], Daniel Cates [2], Chien-Lin Chen [14], Enrique Coss-Adame [15], Gregory Dion [16], David Francis [17], Mami Kaneko [18], Jerome R Lechien [19], Stephanie Misono [20], Anais Rameau [21], Sabine Roman [22 23 24], Anne Vertigan [25 26 27], Yinglian Xiao [28], Frank Zerbib [29], Madeline Greytak [1], John E Pandolfino [6], C Prakash Gyawali [30]

Affiliations Expand

- PMID: 40197644

- PMCID: PMC12353988 (available on 2026-04-08)

- DOI: 10.14309/ajg.0000000000003482

Abstract

Introduction: The term laryngopharyngeal reflux (LPR) is frequently applied to aerodigestive symptoms despite lack of objective reflux evidence. The aim of this initiative was to develop a modern care paradigm for LPR supported by otolaryngology and gastroenterology disciplines.

Methods: A 28-member international interdisciplinary working group developed practical statements within the following domains: definition/terminology, initial diagnostic evaluation, reflux monitoring, therapeutic trials, behavioral factors and therapy, and risk stratification. Literature reviews guided statement development and were presented at virtual/in-person meetings. Each statement underwent 2 or more rounds of voting per the RAND Appropriateness Method; statements reaching appropriateness with ≥80% agreement are included as recommendations.

Results: The term laryngopharyngeal symptoms (LPS) applies to aerodigestive symptoms with potential to be induced by reflux and include cough, voice change, throat clearing, excess throat phlegm, and throat pain. Laryngopharyngeal reflux disease (LPRD) refers to patients with LPS and objective evidence of reflux. Importantly, the presence of LPS does not equate to LPRD. Laryngoscopy has value in assessing for nonreflux laryngopharyngeal processes, but laryngoscopic findings alone cannot diagnose LPRD. LPS patients should be categorized as with or without concurrent esophageal reflux symptoms. While lifestyle modification and empiric trials of acid suppression ± alginates are appropriate when esophageal reflux symptoms coexist, upper endoscopy and ambulatory reflux monitoring are required for LPRD diagnosis when symptoms persist, when LPS is isolated, or when management needs to be escalated to include invasive antireflux management. The two recommended ambulatory reflux monitoring modalities, 24-hour pH-impedance and 96-hour wireless pH monitoring, are not mutually exclusive with distinct roles for the evaluation of LPS. Laryngeal hyperresponsiveness and hypervigilance commonly contribute to both LPS and LPRD presentations and are responsive to laryngeal recalibration therapy and neuromodulators.

Discussion: The San Diego Consensus represents the formal modern-day interdisciplinary care paradigm to evaluate and manage LPS and LPRD.

Keywords: ambulatory reflux monitoring; gastroesophageal reflux disease; laryngopharyngeal reflux disease; laryngopharyngeal symptoms; laryngoscopy.

Conflict of interest statement

Conflicts of Interest:

Rena Yadlapati: Institutional Consulting Agreement: Medtronic, StatLink MD; Consultant: Phathom Pharmaceuticals; Braintree Pharmaceuticals, Reckitt Benckiser Healthcare Ltd; Advisory Board: RJS Mediagnostix

Philip Weissbrod: Founder, Channel Robotics; Consultant, FemtoVox

Erin Walsh: Royalties, Plural Publishing

Thomas L. Carroll: Consultant: Pentax, GSK, Ambu; Scientific Advisory Board and stock options: N-Zyme Medical, Sofregen Medical; Royalties: Plural Publishing

Ashli O'Rourke: Consultant: Laborie Medical Inc, Mectron Inc, Patheous Inc. Scientific Advisory Board: Inovio Pharmaceuticals

Walter W. Chan: Advisory Board: Regeneron, Sanofi.

Justin Wu: Advisory board of Laborie Medical Inc.

Rami Sweis: honoraria for lectures and symposia from Medtronic, Falk, Johnson and Johnson and Endogastric Solutions; consult for Medtronic, Falk and Johnson & Johnson.

Frank Zerbib: Consultant: Medtronic, Reckitt, Sanofi, Dr Falk Pharma, Bristol Myers Squibb, Bioprojet, AstraZeneca, Coloplast

Anais Rameau: Equity: Perceptron Health Inc., Consulting fees: Pentax Medical, Equity: Sound Health Systems, Inc.

Enrique Coss-Adame: Consultant and speaker for Medtronic México. Speaker: Medtronic Mexico

C. Prakash Gyawali: Consultant: Medtronic, Diversatek, Phathom, Braintree; Speaker: Carnot

John Pandolfino: IP/Patent: Medtronic; Consultant/Advisory Board: Medtronic, EndoGastric Solutions, Phathom, Speaker: Medtronic, EndoGastric Solutions, Phathom

Jennifer C Myers: Education/ Proctoring agreement: Medtronic Australasia.

Jackie Gartner-Schmidt: Royalties MedBridge, Inc.

Sabine Roman: consultant for Dr Falk Pharma, Sanofi; Research Support from Medtronic, Diversatek Healthcare

None to disclose: Marie Jette, Livia Guadagnoli, Mami Kaneko, Anne Vertigan, Chien-Lin Chen, Yinglian Xiao, Jerome R. Lechien, Julie Barkmeier-Kraemer, Daniel Cates, Gregory Dion, Stephanie Misono, Madeline Greytak

- Cited by 3 articles
- 117 references

Supplementary info

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

1

Lancet Respir Med

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. 2026 Jan 28:S2213-2600(26)00017-2.

doi: 10.1016/S2213-2600(26)00017-2. Online ahead of print.

Taking a wider view: The Lancet Respiratory Medicine Commission on bronchiectasis

James D Chalmers [1], Stefano Aliberti [2], Merete B Long [3], Jin-Fu Xu [4], Lucy Morgan [5], Hayoung Choi [6], Charles Haworth [7], Rebecca Hull [3], Arietta Spinou [8], Raja Dhar [9], Charles Daley [10], Pamela J McShane [11], Christina Thornton [12], Marcus A Mall [13], Sanjay H Chotirmall [14]; Lancet Respiratory Medicine Commission on bronchiectasis

Affiliations Expand

- PMID: 41619746

- DOI: 10.1016/S2213-2600(26)00017-2

No abstract available

Conflict of interest statement

JDC declares grants/contracts from AstraZeneca, Boehringer Ingelheim, Chiesi, Genentech, Gilead, Grifols, Insmed, and Trudell; consulting fees from Antabio, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Grifols, Insmed, Janssen, Novartis, Pfizer, and Zambon. SA declares grants/contracts to their

institution from GlaxoSmithKline; consulting fees from Insmed, Insmed Netherlands, GlaxoSmithKline; payment/honoraria from Insmed Netherlands, Insmed Germany, Physioassist SAS, Boehringer Ingelheim Italia, Boehringer Ingelheim International, Thermo Fisher Scientific, Zambon Italia, Sanofi, Providens, Pfizer, Limare, GlaxoSmithKline, Chiesi Farmaceutici, and Vertex Pharmaceuticals (Europe); and participation on a data safety monitoring/advisory board for GlaxoSmithKline, Boehringer Ingelheim Italia, Moderna Italy, Zambon, Chiesi Farmaceutici, Insmed Incorporated, Insmed Netherlands, AN2 Therapeutics, Modernatx, and Boehringer Ingelheim International. MBL declares payment/honoraria from Grifols. LM declares consulting fees from GlaxoSmithKline, Boehringer Ingelheim, Insmed, MannKind, and ReCODE; payment/honoraria from GlaxoSmithKline, Boehringer Ingelheim, Insmed, and MannKind; support for attending meetings and/or travel from GlaxoSmithKline; participation on a data safety monitoring/advisory board for GlaxoSmithKline, Boehringer Ingelheim, and ReCODE; and role as Chair of the Lung Foundation Australia Board. HC declares grants from the Ministry of Education and AstraZeneca; consulting fees from Gilead, Boehringer Ingelheim, Abbott, and Kolong; and payment/honoraria from Boryung, Abbott, Otsuka, and Handok. CH declares grants/contracts to their institution from AstraZeneca; consulting fees from 30 Technology, AstraZeneca, BiomX, Boehringer Ingelheim, Chiesi, Clarametyx, Infex, Insmed, LifeArc, Pneumagen, Sanofi, Vertex, and Zambon; payment/honoraria from Chiesi, Insmed, Vertex, and Zambon; payment for expert testimony from Zambon; and is an ECFS Board member. AS declares grants from Asthma and Lung UK; presentation honoraria from the National Defence Medical University of Taiwan; is a member of the British Thoracic Society Statement for childhood cough; and a member of the European Respiratory Society (ERS) Guidance for childhood chronic suppurative diseases. RD declares payment/honoraria from Cipla, Glen Mark, Zuventus, Lupin, GlaxoSmithKline, Sanofi, and AstraZeneca; and participation on a data safety monitoring/advisory board for Glen Mark, Lupin, Sun Pharma and Cipla. CD declares grants/contracts to their institution from AN2, Bugworks, Insmed, Paratek, Juvabis, Cystic Fibrosis Foundation, COPD Foundation, Spero, Verona/Merck, Renovion, and MannKind; consulting fees from Insmed; participation on a data safety monitoring or advisory board for Otsuka (DMC), Bill and Melinda Gates Foundation (DMC), AN2, AstraZeneca, Insmed, Paratek, Juvabis, Galapagos, Grifols, Spero, GlaxoSmithKline, Hyfe, MannKind, MicuRx, NobHill, and COPD Foundation; is a member of the Board of Directors for COPD Foundation; and holds Stocks from NobHill. PJM declares consulting fees from Insmed and Boehringer Ingelheim (steering committee); payment/honoraria from Insmed; and participation on a data safety monitoring/advisory board for AstraZeneca. CT declares grants/contracts from Canadian Institutes for Health Research (CIHR), Cystic Fibrosis Canada, Cystic Fibrosis Foundation, Insmed Incorporated, Trudell Healthcare Solutions, Weston Foundation, Alberta Innovates Health Solutions, Canadian Federation for Innovation and Baxter Medical; and support for attending meetings and/or travel from Cystic Fibrosis Foundation. MAM declares grants from German Research Foundation (DFG), German Ministry for Education and Research (BMBF) and Vertex Pharmaceuticals; contracts from Vertex Pharmaceuticals, Boehringer Ingelheim, and Enterprise Therapeutics; consulting fees from Boehringer Ingelheim, Enterprise Therapeutics, Kither Biotech, Pari, Splisense, and Vertex Pharmaceuticals; honoraria from Boehringer Ingelheim and Vertex Pharmaceuticals; travel reimbursement from Boehringer Ingelheim and Vertex Pharmaceuticals; participation on an advisory board for Boehringer Ingelheim, Enterprise

Therapeutics, Kither Biotech, Pari, Splisense, and Vertex Pharmaceuticals; and an unpaid role as a Fellow of ERS (FERS). SHC declares grants/contracts to their institution from Singapore Ministry of Health, Open Fund Individual Research Grant, Singapore Ministry of Education, and National Research Foundation Singapore; consulting fees from CSL Behring, Boehringer Ingelheim, Pneumagen, Sanofi, Chiesi Farmaceutici, GlaxoSmithKline, and Zaccha Pte; payment/honoria from AstraZeneca, Chiesi Farmaceutici, CSL Behring, and Boehringer Ingelheim; and participation on a data safety monitoring/advisory board for Inovio Pharmaceuticals and Imam Abdulrahman Bin Faisal University. All other authors declare no conflicts of interest.

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Lancet Respir Med

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. 2026 Jan 28:S2213-2600(25)00473-4.

doi: 10.1016/S2213-2600(25)00473-4. Online ahead of print.

Patient finally understanding her bronchiectasis diagnosis by joining patient advocacy group

Tony Kirby

- **PMID: 41619744**
- **DOI: 10.1016/S2213-2600(25)00473-4**

No abstract available

Full text links

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Cite

3

Observational Study

Int J Tuberc Lung Dis

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. 2026 Jan 30;30(2):63-69.

doi: 10.5588/ijtld.25.0336.

Lower FEV_1 and gram-negative bacilli isolation as independent risk factors for exacerbations in post-TB bronchiectasis

W-F Ou [1], C-H Chu [2], C-C Sheu [3], C-L Chang [4], P-H Wang [5], M-H Hsieh [6], W-H Hsu [7], M-T Chen [8], Y-F Wei [9], T-M Yang [10], C-C Lan [11], C-Y Wang [12], C-B Lin [13], M-S Lin [14], Y-T Wang [2], C-H Lin [15], S-F Liu [16], M-H Cheng [3], Y-F Chen [17], W-C Cheng [18], C-K Peng [19], C-Y Chen [20], L-Y Jao [21], Y-H Wang [22], Y-H Wang [23], S-P Chen [2], Y-H Tsai [24], H-C Wang [25], S-L Cheng [5], H-C Lin [6], J-Y Chien [26], M-C Chan [27]

Affiliations Expand

- PMID: 41618107

- DOI: 10.5588/ijtld.25.0336

Abstract

<sec><title>BACKGROUND</title>Post-TB bronchiectasis is a recognised but under-investigated category of bronchiectasis. This study evaluated its clinical features and identified risk factors for acute exacerbations (AEs).</sec><sec><title>METHODS</title>This retrospective observational cohort study analysed data from the Taiwan Bronchiectasis Registry. Patients with bronchiectasis were included, and those with post-TB bronchiectasis were identified for subgroup analysis. We collected demographics, symptoms, lung function, microbiological data, and modified Reiff scores to assess risk factors for AEs.</sec><sec><title>RESULTS</title>A total of 1,444 patients were analysed, including 222 (15%) with post-TB bronchiectasis. Among them, 54 (24%) experienced at least one AE during the study period. Post-TB bronchiectasis patients had more frequent AEs, higher FACED and modified Reiff scores, lower body mass index (BMI) and forced expiratory volume in 1 s (FEV_1), and more symptoms than non-post-TB cases. Post-TB bronchiectasis patients with AEs had higher FACED and Reiff scores, lower BMI and FEV_1, and higher rates of positive sputum cultures for gram-negative bacilli (GNB). Multivariable analysis identified $FEV_1 \leq 60\%$ predicted (adjusted odds ratio [aOR]: 2.334, 95% CI: 1.192-4.572) and positive GNB cultures (aOR: 3.075, 95% CI: 1.362-6.942) as independent risk factors for AEs.</sec><sec><title>CONCLUSION</title>Post-TB bronchiectasis is

associated with a higher risk of exacerbations. Reduced FEV_1 and positive GNB cultures are independent risk factors for AEs.</sec>.

Supplementary info

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Chest

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. 2026 Jan 27:S0012-3692(26)00127-3.

doi: 10.1016/j.chest.2025.12.047. Online ahead of print.

Pulmonary hypertension prevalence and significance in lung transplant recipients with cystic fibrosis and non-cystic fibrosis bronchiectasis

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Affiliations Expand

- PMID: 41611122

- DOI: 10.1016/j.chest.2025.12.047

Abstract

Background: Pulmonary hypertension (PH) is a complication of advanced cystic fibrosis (CF) and non-cystic fibrosis bronchiectasis (n-CFB). The prevalence and post-transplantation prognostic significance of PH in CF and n-CFB remains poorly defined.

Research question: What is the prevalence of PH in patients with CF and n-CFB listed for lung transplantation, and how does pre-transplant PH affect post-transplant survival in each group?

Study design and methods: Patients with CF or n-CFB listed for lung transplantation with right heart catheterization (RHC) data between 2013 and 2024 were included. PH was defined per the 7th World Symposium on PH criteria. Survival was analyzed

using Fine-Gray models with time-varying covariates to account for non-proportional hazards and competing risks.

Results: The cohort included 1,273 transplant recipients with CF and 377 with n-CFB with pre-transplant RHC data. PH was frequently observed in both conditions, though was more prevalent in CF than n-CFB (60% vs. 46%, p<0.001). Among patients with CF, PH was associated with lower early post-transplant mortality (sHR: 0.7 [95% CI: 0.5-0.9]) but with an increased hazard over time (interaction sHR: 1.4 [95% CI: 1.1-1.9]), with worse outcomes beyond three years following transplantation. In contrast, PH was not significantly associated with post-transplant survival among patients with n-CFB (sHR: 0.8 [95% CI: 0.5-1.3]).

Interpretation: Precapillary PH is common and potentially underappreciated in patients with advanced CF and n-CFB listed for lung transplantation with a higher prevalence of PH observed in CF. In this CF cohort, PH appears to be paradoxically associated with improved early post-transplant survival but followed by diminished survival over time. These findings highlight a complex and time-dependent relationship between PH and transplant outcomes in CF, warranting further investigation, particularly in the context of cystic fibrosis transmembrane conductance regulator modulator therapy.

Keywords: cystic fibrosis; non-cystic fibrosis bronchiectasis; pulmonary hypertension.

5

Editorial

Expert Rev Respir Med

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. 2026 Jan 28.

doi: 10.1080/17476348.2026.2624864. Online ahead of print.

Impact of anxiety, depression, fatigue and social isolation in patients with bronchiectasis

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- PMID: 41603793

- DOI: 10.1080/17476348.2026.2624864

No abstract available

Keywords: Anxiety; bronchiectasis; depression; fatigue; pulmonary rehabilitation.

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Tuberc Respir Dis (Seoul)

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. 2026 Jan 27.

doi: 10.4046/trd.2025.0055. Online ahead of print.

Characteristics of patients with idiopathic bronchiectasis in comparison to post-infectious bronchiectasis in South Korea

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- PMID: 41589011

- DOI: 10.4046/trd.2025.0055

Free article

Abstract

Background: Bronchiectasis has a complex, heterogeneous pathogenesis with various aetiologies, with idiopathic bronchiectasis being the majority. This study

aimed to investigate the characteristics of patients with idiopathic bronchiectasis, in comparison with post-infectious bronchiectasis.

Methods: We analyzed idiopathic and post-infectious (including post-TB) bronchiectasis patients from the Korean Multicenter Bronchiectasis Audit and Research Collaboration (KMBARC) registry, a prospective cohort study (1).

Results: Among the 866 patients enrolled in the study, 346 (40.0%) patients were determined as idiopathic, 363 (41.9%) patients as post-infectious. The idiopathic group exhibited shorter disease duration of bronchiectasis, higher BMI, lower prevalence of COPD, higher prevalence of rhinosinusitis, predominance of lower lobe distribution in bronchiectasis, lower usage of regular respiratory treatment, better pulmonary function, and statistically lower bronchiectasis severity index (BSI) compared to post-infectious bronchiectasis. Multivariable logistic regression analysis was performed for the variables of gender, age, body mass index, the history of asthma, COPD, rhinosinusitis, rheumatoid arthritis and gastroesophageal reflux disease (GERD), and smoking status. A higher body mass index (odds ratio, 1.09; 95% confidence interval, 1.04-1.15) and the history of rhinosinusitis (3.10; 1.57-6.14) were associated with idiopathic bronchiectasis. Conversely, the history of COPD was associated with post-infectious bronchiectasis (0.57; 0.41-0.80).

Conclusion: The characteristics of patients with idiopathic bronchiectasis might be a higher body mass index (BMI) and the history of rhinosinusitis in comparison with post-infectious bronchiectasis, potentially serving as exploratory clues to underlying systemic or non-pulmonary factors. Further research is needed to clarify their clinical significance.

Keywords: BMI; Bronchiectasis; Idiopathic; Post-infectious; Rhinosinusitis.

7

Thorac Res Pract

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. 2026 Jan 30;27(1):75-76.

doi: 10.4274/ThoracResPract.2025.2025-5-4. Epub 2026 Jan 20.

The Necessity of Bronchiectasis Registries - The Turkish Registry of Bronchiectasis

Deniz Kızılırmak [1], Miguel Angel Martinez-Garcia [2], Sedat Çiçek [3], Ayşın Şakar Coşkun [1], Oğuz Kılınç [4], Ebru Çakır Edis [5]

Affiliations Expand

- **PMID: 41555634**

- **DOI: 10.4274/ThoracResPract.2025.2025-5-4**

Free article

No abstract available

Keywords: Bronchiectasis; bronchiectasis database; national registry.

Conflict of interest statement

No conflict of interest was declared by the authors.

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Eur J Radiol

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. 2026 Feb:195:112626.

doi: 10.1016/j.ejrad.2025.112626. Epub 2025 Dec 30.

Quantitative airway evaluation using supine and upright computed tomography in patients with non-cystic fibrosis bronchiectasis and nontuberculous mycobacterial pulmonary disease

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Affiliations Expand

- **PMID: 41529418**

- **DOI: 10.1016/j.ejrad.2025.112626**

Free article

Abstract

Introduction: Bronchiectasis, closely associated with nontuberculous mycobacterial pulmonary disease (NTM-PD), exhibits unevenly distributed lesions, yet their spatial features remain unclear. We hypothesized that upright CT, which may better depict distal airways due to gravity-induced lung expansion, might more accurately reflect disease severity and its relationship with pulmonary function tests (PFTs).

Methods: In this prospective study, twenty patients underwent low-dose inspiratory and expiratory CT scans in standing and supine positions. Airways were segmented with Vincent® software and classified as bronchiectatic or non-bronchiectatic. Generation-specific quantitative CT (QCT) parameters, including inspiratory airway total area (ITA), inspiratory airway lumen area (ILA), wall thickness, and wall area percentage (WA%), were measured and correlated with PFTs.

Results: Bronchiectatic lesions were primarily identified in the 8th-10th generation airways (anatomically the 7th-9th generations), the transition from distal bronchi to proximal bronchioles. Standing CT detected more distal airways than supine CT. Mixed-effect models revealed significantly larger ITA and higher WA% in bronchiectatic airways (8th-10th generations) on standing CT. In non-bronchiectatic airways (trachea to 6th generation), ITA and ILA were significantly larger in the standing position, except for the main bronchus ITA. ITA, ILA, and WA% were moderate to strongly correlated with %FVC, $\%FEV_1$, and $FEF_{25-75\%}$, reflecting airway obstruction, with stronger correlations in the standing position. ITA in bronchiectatic airways was moderately negatively correlated with diffusing capacity of the lungs for carbon monoxide, indicating potential alveolar disease.

Conclusion: Upright CT offers useful structural biomarkers associated with airflow limitation and possible alveolar impairment in bronchiectasis with NTM-PD.

Registration: University Hospital Medical Information Network (UMIN 000026587). URL: https://upload.umin.ac.jp/cgi-open-bin/ctr/ctr_view.cgi?recptno=R000030456.

Keywords: Airway abnormalities; Bronchiectasis; Lesions; Mycobacterium avium complex (MAC); Nontuberculous mycobacteria (NTM); Pulmonary obstruction.

Conflict of interest statement

Declaration of competing interest The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Masahiro Jinzaki received a grant from Canon Medical Systems, which loaned an upright CT device to Keio University. The funder was not involved in the design of the study; collection, analysis, interpretation of data; or writing of the manuscript. The other authors declare no conflict of interest.

Supplementary info

MeSH termsExpand

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Review

Drugs

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. 2026 Feb;86(2):265-270.

doi: 10.1007/s40265-025-02255-0. Epub 2025 Dec 5.

Brensocatib: First Approval

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Affiliations Expand

- PMID: 41348269

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

Abstract

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

Conflict of interest statement

Declarations. Authorship and Conflict of Interest: During the peer review process the manufacturer of the agent under review was offered an opportunity to comment on the article. Changes resulting from any comments received were made by the authors on the basis of scientific completeness and accuracy. Susan J. Keam is a

contracted employee of Adis International Ltd/Springer Nature, and declares no relevant conflicts of interest. All authors contributed to this article and are responsible for its content. Ethics Approval, Consent to Participate, Consent to Publish, Availability of Data and Material, Code Availability: Not applicable.

- 19 references

Supplementary info

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Multicenter Study

Int J Infect Dis

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. 2026 Feb:163:108197.

doi: 10.1016/j.ijid.2025.108197. Epub 2025 Nov 7.

Clinical characteristics of extrapulmonary nontuberculous mycobacterial disease in Japanese adult patients without HIV: A multicenter retrospective study

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Affiliations Expand

- **PMID: 41207369**

- **DOI: 10.1016/j.ijid.2025.108197**

Free article

Abstract

Objectives: The incidence of nontuberculous mycobacteria (NTM) infections has increased globally. We describe clinical characteristics and outcomes of extrapulmonary NTM disease.

Methods: This multicenter retrospective study included adult patients with extrapulmonary NTM disease at five Japanese tertiary hospitals (2012-2020), confirmed by culture or polymerase chain reaction tests from non-pulmonary specimens. Clinical characteristics, antimicrobial therapy, source control, treatment outcomes, and mortality were evaluated.

Results: Seventy patients were included: 49 with rapidly growing mycobacteria (RGM) and 21 with slowly growing mycobacteria (SGM) infections. Median age was 70; 52.9% were male. Prosthetic devices were present in 38.6% of cases, more frequent in RGM than SGM (51% vs. 10%). Antimicrobials were administered to 70.0%, and 62.9% underwent source control. Treatment duration was longer for SGM (435 vs. 132 days), particularly for bone, joint, and disseminated infections. Cure/improvement occurred in 53 patients (75.7%), with similar outcomes for RGM and SGM. Among RGM infections, lack of source control in device-related cases was associated with poor treatment outcomes. Fifteen patients died during the observation period; two were NTM-related.

Conclusions: Most extrapulmonary NTM cases respond to antimicrobial therapy and source control. RGM infections involving prosthetic devices without source control remain challenging, warranting further research into optimized management.

Keywords: Anti-Bacterial Agents; Mycobacterium Infection; Nontuberculous; Prosthesis-Related Infection; Treatment Outcome.

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Acad Radiol

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. 2026 Feb;33(2):586-599.

doi: 10.1016/j.acra.2025.09.036. Epub 2025 Oct 13.

Evaluating Stack-of-Stars and FLORET 3D Ultrashort Echo Time MRI to Assess Structural Pathology in Cystic Fibrosis Lung Disease

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Affiliations Expand

- PMID: 41087234

- DOI: 10.1016/j.acra.2025.09.036

Abstract

Rationale and objectives: Free-breathing structural lung MRI using 3D Ultrashort Echo Time (UTE) techniques has advanced substantially; however, image quality and diagnostic performance can vary depending on the acquisition strategy. Stack-of-Stars (SoS) is a commonly available UTE method, whereas FLORET (Fermat Looped, Orthogonally Encoded Trajectories) enables more efficient and isotropic k-space sampling. Thus, the purpose of this study was to compare the image quality and diagnostic performance of SoS and FLORET 3D UTE MRI in detecting structural lung abnormalities in individuals with cystic fibrosis (CF).

Materials and methods: Six individuals with CF (24.6 ± 7.3 years) underwent free-breathing lung MRI using multi-echo SoS for bronchiectasis T_2* mapping. An additional 25 individuals with CF (15.6 ± 4.9 years) underwent lung MRI using SoS and FLORET UTE sequences for structural evaluation. Image quality was assessed using Likert scores, signal ratio (Sr), and contrast ratio (Cr). Brody scores for five CF-related abnormalities were compared to CT acquired within 3 years. Wilcoxon tests, Pearson correlations, and kappa statistics were used for analysis.

Results: FLORET demonstrated significantly higher Sr (216 ± 60 vs 153 ± 76) and Cr (15.1 ± 5.2 vs 6.8 ± 9.6) than SoS ($P < .001$). Qualitative image scores were superior for FLORET across all domains. FLORET Brody scores correlated strongly with CT ($R^2 = 0.95$, $\kappa = 0.94$), while SoS showed weaker agreement ($R^2 = 0.40$, $\kappa = 0.44$). Inter-reader agreement was also higher with FLORET ($R^2 = 0.70$, $\kappa = 0.82$).

Conclusion: FLORET 3D UTE MRI provides superior image quality, improved diagnostic agreement, and stronger correlation with CT compared to SoS, supporting its use as a radiation-free alternative for structural assessment in CF lung disease.

Keywords: FLORET; Lung imaging; Stack-of-stars; Structural lung disease; Ultrashort echo time MRI.

Conflict of interest statement

Declaration of Competing Interest The authors declare the following financial interests/personal relationships which may be considered as potential competing

interests: Matthew M. Willmering and Jason C. Woods are consultants to Polarean Imaging, plc.

Supplementary info

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