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

1

Clin Exp Med

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. 2023 Jun 16.

doi: 10.1007/s10238-023-01117-x. Online ahead of print.

**Using complete blood count, serum immunoglobulins G/A/M and complement C3/C4 levels to predict the risk of COPD acute exacerbation: 2-year follow-up in a single-center prospective cohort study**

[Shiyi He](#)<sup>#1 2</sup>, [Shiyu Wu](#)<sup>#1</sup>, [Tianwei Chen](#)<sup>1 3</sup>, [Chao Cao](#)<sup>4</sup>

Affiliations expand

- PMID: 37328656

- DOI: [10.1007/s10238-023-01117-x](https://doi.org/10.1007/s10238-023-01117-x)

## Abstract

Autoimmunity is present in patients with stable chronic obstructive pulmonary disease (COPD), playing a role in indirect and direct ways. We aimed to explore whether autoimmunity could play a role in COPD exacerbations and construct autoimmunity-related prediction models. This prospective, longitudinal, observational cohort study enrolled 155 patients with acute COPD exacerbations (AECOPD) followed for at least two years. The laboratory parameters, including complete blood count, serum immunoglobulins G/A/M and complement C3/C4 levels, were collected at enrollment. We studied the demographic characteristics, clinical characteristics and laboratory parameters to identify independent risk factors and build predictive models. The results showed that lower lymphocyte count was associated with noninvasive ventilation (NIV) in patients with AECOPD (the odds ratio [OR] 0.25, the 95% confidence interval [CI]: 0.08-0.81, P = 0.02). Lymphocyte count performed well with an area under the curves (AUC) of 0.75 (P < 0.0001, sensitivity: 78.1%, specificity: 62.3%, cutoff value [Cov] ≤ 1.1). The C index, calibration plot, decision curve analysis (DCA) and bootstrap repetitions indicated that this clinical prediction model based on lymphocyte count for NIV in patients with AECOPD performed well. Having prior home oxygen therapy (OR: 2.82, 95% CI: 1.25-6.36, P = 0.013) and higher COPD Assessment Test (CAT) scores (OR: 1.14, 95% CI: 1.03-1.25, P = 0.011) were associated with the increased risk for respiratory failure. For predicting respiratory failure, CAT scores and home oxygen therapy combined had an AUC-ROC of 0.73 (P < 0.0001). This clinical prediction model based on lymphocyte count may help to assist in treatment decisions for NIV in patients with AECOPD. Lower complement C3 seems to be associated with worse outcomes in patients with AECOPD.

**Keywords:** Acute exacerbations; Chronic obstructive pulmonary disease; Complement C3; Complement C4; Complete blood count; Immunoglobulins; Prediction nomogram.

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Thorax

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- . 2023 Jun 16;thorax-2022-219320.  
doi: 10.1136/thorax-2022-219320. Online ahead of print.

# Cause-specific mortality in COPD subpopulations: a cohort study of 339 647 people in England

[Hannah Whittaker](#)<sup>1</sup>, [Kieran J Rothnie](#)<sup>2</sup>, [Jennifer K Quint](#)<sup>3</sup>

Affiliations expand

- PMID: 37328279
- DOI: [10.1136/thorax-2022-219320](https://doi.org/10.1136/thorax-2022-219320)

## Abstract

**Background:** Identifying correlates of cause-specific mortality in patients with chronic obstructive pulmonary disease (COPD) may aid the targeting of therapies to reduce mortality. We determined factors associated with causes of death in a primary care COPD population.

**Methods:** Clinical Practice Research Datalink Aurum was linked to Hospital Episode Statistics and death certificate data. People with COPD alive between 1 January 2010 and 1 January 2020 were included. Patient characteristics were defined before the start of follow-up: (a) frequency and severity of exacerbations; (b) emphysema or chronic bronchitis; (c) Global Obstructive Lung Disease (GOLD) groups A-D; and (d) airflow limitation. We used Cox Proportional Hazards regression and competing risks to investigate the association between patient characteristics and risk of all-cause, COPD and cardiovascular (CV) mortality.

**Results:** 339 647 people with COPD were included of which 97 882 died during follow-up (25.7% COPD related and 23.3% CV related). Airflow limitation, GOLD group, exacerbation frequency and severity, and COPD phenotype were associated with all-cause mortality. Exacerbations, both increased frequency and severity, were associated with COPD-related mortality ( $\geq 2$  exacerbations vs none adjusted HR: 1.64, 1.57-1.71; 1 severe vs none adjusted HR: 2.17, 2.04-2.31, respectively). Patients in GOLD groups B-D had a higher risk of COPD and CV mortality compared with GOLD group A (GOLD group D vs group A, adjusted HR for COPD mortality: 4.57, 4.23-4.93 and adjusted HR for CV mortality: 1.53,

1.41-1.65). Increasing airflow limitation was also associated with both COPD and CV mortality (GOLD 4 vs 1, adjusted HR: 12.63, 11.82-13.51 and adjusted HR: 1.75, 1.60-1.91, respectively).

**Conclusion:** Poorer airflow limitation, worse functional status and exacerbations had substantial associations with risk of all-cause mortality. Differing results for CV and COPD-related mortality suggests interventions to prevent mortality may need to target particular characteristics or time points in the disease course.

**Keywords:** COPD epidemiology.

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## Conflict of interest statement

Competing interests: This study, 214667, is a supported collaborative study where GlaxoSmithKline provided support and collaborated with the research sponsor. No payment was made for manuscript development. HW and JKQ report grants from GlaxoSmithKline, during the conduct of this study. KJR is an employee of and holds shares in GlaxoSmithKline.

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Scand J Med Sci Sports

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. 2023 Jun 15.

doi: 10.1111/sms.14428. Online ahead of print.

## Residual effects of 12 weeks of power-oriented resistance training plus high-intensity interval training on muscle dysfunction, systemic oxidative

# damage, and antioxidant capacity after 10 months of training cessation in older people with COPD

Ivan Baltasar-Fernandez<sup>1,2,3,4</sup>, Jose Losa-Reyna<sup>2,5</sup>, Aitor Carretero<sup>2,6</sup>, Carlos Rodriguez-Lopez<sup>2,7</sup>, Ana Alfaro-Acha<sup>2,8</sup>, Amelia Guadalupe-Grau<sup>1,2,4</sup>, Ignacio Ara<sup>1,2,4</sup>, Luis M Alegre<sup>1,2,4</sup>, Mari Carmen Gomez-Cabrera<sup>2,6</sup>, Francisco J García-García<sup>2,8</sup>, Julian Alcazar<sup>1,2,4</sup>

Affiliations expand

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- DOI: [10.1111/sms.14428](https://doi.org/10.1111/sms.14428)

## Abstract

**Objective:** This study aimed to assess the residual effects of a 12-week concurrent training program (power training + high-intensity interval training) in older adults with chronic obstructive pulmonary disease (COPD).

**Methods:** A total of 21 older adults with COPD [intervention (INT), n = 8; control (CON), n = 13; 76.9 ± 6.8 years] were assessed at baseline and 10 months after the completion of the intervention by the short physical performance battery (SPPB), health-related quality of life (EQ-5D-5L), vastus lateralis muscle thickness (MT), peak pulmonary oxygen uptake (peak VO<sub>2</sub>) and peak work rate (W<sub>peak</sub>), early and late isometric rate of force development (RFD), leg and chest press maximum muscle power (LP<sub>max</sub> and CP<sub>max</sub>), and systemic oxidative damage and antioxidant capacity.

**Results:** Compared to baseline, after 10 months of detraining, the INT group presented increased SPPB ( $\Delta = 1.0$  point), health-related quality of life ( $\Delta = 0.07$  points), early RFD ( $\Delta = 834 \text{ N}\cdot\text{s}^{-1}$ ), LP<sub>max</sub> ( $\Delta = 62.2 \text{ W}$ ), and CP<sub>max</sub> ( $\Delta = 16.0 \text{ W}$ ) (all p < 0.05). In addition, a positive effect was noted in INT compared to CON regarding MT and W<sub>peak</sub> (both p < 0.05). No between-group differences were reported in peak VO<sub>2</sub>, late RFD, systemic oxidative damage, and antioxidant capacity from baseline to 10 months after the completion of the intervention (all p > 0.05).

**Conclusions:** Twelve weeks of concurrent training were enough to ensure improved physical function, health-related quality of life, early RFD and maximum muscle power and to preserve MT and W<sub>peak</sub> but not peak VO<sub>2</sub>, late RFD, systemic oxidative damage and antioxidant capacity in the subsequent 10 months of detraining in older adults with COPD.

**Keywords:** aging; cardiovascular; concurrent training; detraining; muscle power; neuromuscular; physical performance; quality of life.

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. 2023 Jun 15;61(6):2300462.

doi: 10.1183/13993003.00462-2023. Print 2023 Jun.

## Can we call all obstructive lung diseases COPD?

[Hyun Lee<sup>1</sup>](#), [Sun Hye Shin<sup>2</sup>](#), [Hye Yun Park<sup>3</sup>](#), [Seong Yong Lim<sup>4</sup>](#)

Affiliations [expand](#)

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- DOI: [10.1183/13993003.00462-2023](https://doi.org/10.1183/13993003.00462-2023)

*No abstract available*

# Conflict of interest statement

Conflict of interest: None of the authors has any potential conflicts of interest to disclose.

## Comment on

- [Global Initiative for Chronic Obstructive Lung Disease 2023 Report: GOLD Executive Summary.](#)

Agustí A, Celli BR, Criner GJ, Halpin D, Anzueto A, Barnes P, Bourbeau J, Han MK, Martinez FJ, Montes de Oca M, Mortimer K, Papi A, Pavord I, Roche N, Salvi S, Sin DD, Singh D, Stockley R, López Varela MV, Wedzicha JA, Vogelmeier CF. *Eur Respir J*. 2023 Apr 1;61(4):2300239. doi: 10.1183/13993003.00239-2023. Print 2023 Apr. PMID: 36858443 **Free PMC article.**

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. 2023 Jun 15;61(6):2300455.  
doi: 10.1183/13993003.00455-2023. Print 2023 Jun.

## [Shorter duration of antibiotic therapy for exacerbation of COPD](#)

[Victor Leung](#)<sup>1</sup>, [Colin Lee](#)<sup>2</sup>

Affiliations expand

- PMID: 37321615

- DOI: [10.1183/13993003.00455-2023](https://doi.org/10.1183/13993003.00455-2023)

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## Comment on

- [Global Initiative for Chronic Obstructive Lung Disease 2023 Report: GOLD Executive Summary.](#)

Agustí A, Celli BR, Criner GJ, Halpin D, Anzueto A, Barnes P, Bourbeau J, Han MK, Martinez FJ, Montes de Oca M, Mortimer K, Papi A, Pavord I, Roche N, Salvi S, Sin DD, Singh D, Stockley R, López Varela MV, Wedzicha JA, Vogelmeier CF. Eur Respir J. 2023 Apr 1;61(4):2300239. doi: 10.1183/13993003.00239-2023. Print 2023 Apr. PMID: 36858443 **Free PMC article.**

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. 2023 Jun 15;61(6):2300292.  
doi: 10.1183/13993003.00292-2023. Print 2023 Jun.

# Questioning the purpose of annual follow-up spirometry for all patients with COPD

Jehangir Khan<sup>1,2</sup>, Cormac McCarthy<sup>1,2</sup>, Alessandro N Franciosi<sup>3,2</sup>

Affiliations expand

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- DOI: [10.1183/13993003.00292-2023](https://doi.org/10.1183/13993003.00292-2023)

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Conflict of interest: The authors report no conflict of interest.

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- [Global Initiative for Chronic Obstructive Lung Disease 2023 Report: GOLD Executive Summary.](#)

Agustí A, Celli BR, Criner GJ, Halpin D, Anzueto A, Barnes P, Bourbeau J, Han MK, Martinez FJ, Montes de Oca M, Mortimer K, Papi A, Pavord I, Roche N, Salvi S, Sin DD, Singh D, Stockley R, López Varela MV, Wedzicha JA, Vogelmeier CF. Eur Respir J. 2023 Apr 1;61(4):2300239. doi: 10.1183/13993003.00239-2023. Print 2023 Apr. PMID: 36858443 **Free PMC article.**

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. 2023 Jun 15;61(6):2300616.

doi: 10.1183/13993003.00616-2023. Print 2023 Jun.

# GOLD 2023 Executive Summary: responses from the GOLD Scientific Committee

Alvar Agustí<sup>1</sup>, Antonio Anzueto<sup>2</sup>, Bartolome R Celli<sup>3</sup>, Kevin Mortimer<sup>4 5 6</sup>, Sundeep  
Salvi<sup>7</sup>, Claus F Vogelmeier<sup>8</sup>; GOLD Scientific Committee

Affiliations expand

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- PMCID: [PMC10269375](#)
- DOI: [10.1183/13993003.00616-2023](https://doi.org/10.1183/13993003.00616-2023)

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## Abstract

**The GOLD Scientific Committee respond to five letters to the Editor in relation to the GOLD 2023 Executive Summary** <https://bit.ly/41wJzhk>

## Conflict of interest statement

Conflict of interest: A. Agustí is Chair of the Board of Directors of GOLD (no payment received), and reports grants or contracts from AZ, GSK, Chiesi and Menarini, consultancy fees from AZ, GSK, Chiesi, Menarini, Zambon, MSD and Sanofi, and payment or honoraria for lectures, presentations, manuscript writing or educational events from AZ, GSK, Chiesi, Menarini and Zambon, outside the submitted work. A. Anzueto reports consultancy fees from GlaxoSmithKline, AstraZeneca and Boehringer Ingelheim, and payment or honoraria

for lectures, presentations, manuscript writing or educational events from Viatrix Pharma, outside the submitted work. B.R. Celli reports support for the present work from Chiesi Farmaceutici; grants or contracts from GlaxoSmithKline, AstraZeneca, Menarini, Sanofi Aventis and Axios, consultancy fees from GlaxoSmithKline, AstraZeneca and Sanofi Aventis, payment or honoraria for lectures, presentations, manuscript writing or educational events from GlaxoSmithKline, AstraZeneca, Menarini, Chiesi and Regeneron, support for attending meetings and/or travel from GlaxoSmithKline and Sanofi Aventis, and participation on a data safety monitoring board or advisory board for AZ Therapeutics, Sanofi Aventis and Vertex, outside the submitted work. K. Mortimer has contributed to advisory boards for AstraZeneca and GlaxoSmithKline, outside the submitted work. S. Salvi has no potential conflicts of interest to disclose. C.F. Vogelmeier reports grants or contracts from German Ministry of Education and Science (BMBF), AstraZeneca, Boehringer Ingelheim, Chiesi, CSL Behring, GlaxoSmithKline, Grifols and Novartis, consultancy fees from Aerogen, AstraZeneca, Boehringer Ingelheim, CSL Behring, Chiesi, GlaxoSmithKline, Insmed, Menarini, Novartis and Nuvaira, and payment or honoraria for lectures, presentations, manuscript writing or educational events from Aerogen, AstraZeneca, Boehringer Ingelheim, CSL Behring, Chiesi, GlaxoSmithKline, Insmed, Menarini, Novartis, Roche and Sanofi, outside the submitted work.

## Comment on

- [Global Initiative for Chronic Obstructive Lung Disease 2023 Report: GOLD Executive Summary.](#)

Agustí A, Celli BR, Criner GJ, Halpin D, Anzueto A, Barnes P, Bourbeau J, Han MK, Martinez FJ, Montes de Oca M, Mortimer K, Papi A, Pavord I, Roche N, Salvi S, Sin DD, Singh D, Stockley R, López Varela MV, Wedzicha JA, Vogelmeier CF. *Eur Respir J.* 2023 Apr 1;61(4):2300239. doi: 10.1183/13993003.00239-2023. Print 2023 Apr. PMID: 36858443 [Free PMC article.](#)

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. 2023 Jun 15;61(6):2300484.

doi: 10.1183/13993003.00484-2023. Print 2023 Jun.

## Implication of the Global Initiative for Chronic Obstructive Lung Disease 2023 report for resource-limited settings: tracing the G in the GOLD

Bruce J Kirenga<sup>1,2</sup>, Patricia Alupo<sup>3</sup>, Frederik van Gemert<sup>4</sup>, Rupert Jones<sup>5</sup>

Affiliations expand

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- PMCID: [PMC10269374](#)
- DOI: [10.1183/13993003.00484-2023](https://doi.org/10.1183/13993003.00484-2023)

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### Abstract

**COPD guidelines still have blind spots for low-resource settings. If GOLD is truly to be considered a global report on COPD, more attention will need to be paid to practical solutions in global settings. <https://bit.ly/3zusjOd>**

### Conflict of interest statement

Conflict of interest: The authors have no potential conflicts of interest to declare.

### Comment on

- [Global Initiative for Chronic Obstructive Lung Disease 2023 Report: GOLD Executive Summary.](#)

Agustí A, Celli BR, Criner GJ, Halpin D, Anzueto A, Barnes P, Bourbeau J, Han MK, Martinez FJ, Montes de Oca M, Mortimer K, Papi A, Pavord I, Roche N, Salvi S, Sin DD, Singh D, Stockley R, López Varela MV, Wedzicha JA, Vogelmeier CF. Eur Respir J. 2023 Apr 1;61(4):2300239. doi: 10.1183/13993003.00239-2023. Print 2023 Apr. PMID: 36858443 **Free PMC article.**

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. 2023 Jun 15;18(6):e0286533.

doi: 10.1371/journal.pone.0286533. eCollection 2023.

## Cost-effectiveness of personalised telehealth intervention for chronic disease management: A pilot randomised controlled trial

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- PMID: 37319290

- DOI: [10.1371/journal.pone.0286533](https://doi.org/10.1371/journal.pone.0286533)

## Free article

# Abstract

**Objective:** The study aims to assess the cost-effectiveness of a personalised telehealth intervention to manage chronic disease in the long run.

**Method:** The Personalised Health Care (PHC) pilot study was a randomised trial with an economic evaluation alongside over 12 months. From a health service perspective, the primary analysis compared the costs and effectiveness of PHC telehealth monitoring with usual care. An incremental cost-effectiveness ratio was calculated based on costs and health-related quality of life. The PHC intervention was implemented in the Barwon Health region, Geelong, Australia, for patients with a diagnosis of COPD and/or diabetes who had a high likelihood of hospital readmission over 12 months.

**Results:** When compared to usual care at 12 months, the PHC intervention cost AUD\$714 extra per patient (95%CI -4879; 6308) with a significant improvement of 0.09 in health-related quality of life (95%CI: 0.05; 0.14). The probability of PHC being cost-effective by 12 months was close to 65%, at willingness to pay a threshold of AUD\$50,000 per quality-adjusted life year.

**Conclusion:** Benefits of PHC to patients and the health system at 12 months translated to a gain in quality-adjusted life years with a non-significant cost difference between the intervention and control groups. Given the relatively high set-up costs of the PHC intervention, the program may need to be offered to a larger population to achieve cost-effectiveness. Long-term follow-up is required to assess the real health and economic benefits over time.

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# Conflict of interest statement

The authors have declared that no competing interests exist.

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. 2023 Jun 14.

doi: 10.1007/s40266-023-01038-0. Online ahead of print.

## Pharmacotherapies in Older Adults with COPD: Challenges and Opportunities

[Maria Gabriella Matera](#)<sup>1</sup>, [Nicola A Hanania](#)<sup>2</sup>, [Mauro Maniscalco](#)<sup>3,4</sup>, [Mario Cazzola](#)<sup>5</sup>

Affiliations expand

- PMID: 37316689
- DOI: [10.1007/s40266-023-01038-0](https://doi.org/10.1007/s40266-023-01038-0)

### Abstract

Older adults have a higher prevalence of chronic obstructive pulmonary disease (COPD), which will likely increase substantially in the coming decades owing to aging populations and increased long-term exposure to risk factors for this disease. COPD in older adults is characterized by low-grade chronic systemic inflammation, known as inflamm-aging. It contributes substantially to age-associated pulmonary changes that are clinically expressed by reduced lung function, poor health status, and limitations in activities of daily living. In addition, inflamm-aging has been associated with the onset of many comorbidities commonly encountered in COPD. Furthermore, physiologic changes that are often seen with aging can influence the optimal treatment of older patients with COPD. Therefore, variables such as pharmacokinetics, pharmacodynamics, polypharmacy, comorbidities, adverse drug responses, drug interactions, method of administration, and social and economic issues that impact nutrition and adherence to therapy must be carefully evaluated when prescribing medication to these patients because each of them alone or together may affect the outcome of treatment. Current COPD medications focus mainly on alleviating COPD-related symptoms, so alternative treatment approaches that target the disease progression are being investigated. Considering the importance of inflamm-aging, new anti-inflammatory molecules are being evaluated, focusing on inhibiting the

recruitment and activation of inflammatory cells, blocking mediators of inflammation thought to be important in the recruitment or activation of these inflammatory cells or released by these cells. Potential therapies that may slow the aging processes by acting on cellular senescence, blocking the processes that cause it (senostatics), eliminating senescent cells (senolytics), or targeting the ongoing oxidative stress seen with aging need to be evaluated.

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. 2023 Jun 12;S1878-8750(23)00785-4.

doi: 10.1016/j.wneu.2023.06.019. Online ahead of print.

## [Frailty stratification using the Modified 5-item frailty index: Significant variation within frailty patients in spine surgery](#)

[Gaston Camino-Willhuber](#)<sup>1</sup>, [Henryk Haffer](#)<sup>2</sup>, [Maximilian Muellner](#)<sup>2</sup>, [Yusuke Dodo](#)<sup>3</sup>, [Erika Chiapparelli](#)<sup>1</sup>, [Soji Tani](#)<sup>4</sup>, [Krizia Amoroso](#)<sup>5</sup>, [Michele Sarin](#)<sup>1</sup>, [Jennifer Shue](#)<sup>1</sup>, [Ellen M Soffin](#)<sup>5</sup>, [William D Zelenty](#)<sup>1</sup>, [Gbola Sokunbi](#)<sup>1</sup>, [Darren R Lebl](#)<sup>1</sup>, [Frank P Cammisa](#)<sup>1</sup>, [Federico P Girardi](#)<sup>1</sup>, [Alexander P Hughes](#)<sup>1</sup>, [Andrew A Sama](#)<sup>6</sup>

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- PMID: 37315893
- DOI: [10.1016/j.wneu.2023.06.019](https://doi.org/10.1016/j.wneu.2023.06.019)

## Abstract

**Background:** Frailty status has been associated with higher rates of complications after spine surgery. However, frailty patients constitute a heterogeneous group based on the combinations of comorbidities. The objective of this study is to compare the combinations of variables that compose the modified 5-factor frailty index score (mFI-5) based on the number of comorbidities in terms of complications, reoperation, readmission, and mortality after spine surgery.

**Methods:** The American College of Surgeons - National Surgical Quality Improvement Program (ACS-NSQIP) Database from 2009-2019 was used to identify patients who underwent elective spine surgery. The mFI-5 item score was calculated and patients were classified according to number and combination of comorbidities. Multivariable analysis was used to assess the independent impact of each combination of comorbidities in the mFI-5 score on the risk of complications.

**Results:** A total of 167, 630 patients were included with a mean age of  $59.9 \pm 13.6$  years. The risk of complications was the lowest in patients with diabetes + hypertension (OR=1.2) and highest in those with the combination of CHF, diabetes, COPD, and dependent status (OR=6.6); there was a high variation in complication rate based on specific combinations.

**Conclusion:** There is high variability in terms of relative risk of complications based on the number and combination of different comorbidities, especially with CHF and dependent status. Therefore, frailty status encompasses a heterogeneous group and sub-stratification of frailty status is necessary to identify patients with significantly higher risk of complications.

**Keywords:** complications; modified frailty index; mortality; readmission; spine surgery.

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Am J Respir Crit Care Med

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. 2023 Jun 14.

doi: 10.1164/rccm.202303-0504OC. Online ahead of print.

# Use of CAPTURE to Identify Individuals Who May or May Not Require Treatment for COPD

Yun Li<sup>1</sup>, Fuqiang Wen<sup>2</sup>, Qianli Ma<sup>3</sup>, Rongchang Chen<sup>4</sup>, Yongchang Sun<sup>5</sup>, Tiantian Liu<sup>6</sup>, Chenjuan Gu<sup>6</sup>, Shuling Hu<sup>6</sup>, Jie Song<sup>6</sup>, Chris Compton<sup>7</sup>, Jinping Zheng<sup>1</sup>, Nanshan Zhong<sup>1</sup>, Paul Jones<sup>8</sup>

Affiliations expand

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## Abstract

**Rationale:** The COPD Assessment in Primary Care to Identify Undiagnosed Respiratory Disease and Exacerbation Risk (CAPTURE) tool was developed to identify patients with undiagnosed COPD with  $FEV_1 < 60\%$  predicted or risk of exacerbation as treatment criteria.

**Objectives:** To test the ability of CAPTURE to identify patients requiring treatment because of symptoms or risk of exacerbation or hospitalization.

**Methods:** Data were from COMPASS, a prospective study in China of COPD, chronic bronchitis without airflow limitation (post-bronchodilator  $FEV_1/FVC > 0.70$ ), and healthy never-smokers. CAPTURE was tested as questions alone and with peak expiratory flow (PEF). Sensitivity, specificity, positive and negative predicted values (PPV and NPV) were calculated for CAT  $\geq 10$  vs  $< 10$ , mMRC  $\geq 2$  vs  $< 2$ , and  $\geq 1$  moderate exacerbation or hospitalization vs none in the previous year.

**Measurements and main results:** COPD patients ( $n=1696$ ), mean age  $65 \pm 7.5$  years, 90% males, post-bronchodilator  $FEV_1 66.5 \pm 20.1\%$  pred; controls ( $n=307$ ), age  $60.2 \pm 7.0$  years, 65% males,  $FEV_1/FVC 0.78 \pm 0.04$ . CAPTURE using PEF showed the best combination of

sensitivity and specificity. Sensitivity and specificity to detect CAT  $\geq 10$  were 68.5% and 64.0%, respectively; mMRC  $\geq 2$  (85.6% and 61.0%),  $\geq 1$  moderate exacerbation (63.5% and 55.6%) and hospitalization (70.2% and 59.4%). PPV ranged 15.6% (moderate exacerbations) to 47.8% (CAT). NPV ranged 80.8% (CAT) to 95.6% (mMRC).

**Conclusions:** CAPTURE has good sensitivity to identify COPD patients who may require treatment because of elevated symptoms, risk of exacerbations or hospitalization, including those with FEV<sub>1</sub> >60% predicted. High NPV values show it can also exclude those who may not require treatment.

**Funding:** GSK (208630).

**Keywords:** Case finding; Chronic obstructive pulmonary disease; Peak expiratory flow; Symptoms.

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JAMA

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. 2023 Jun 13;329(22):1986-1987.

doi: 10.1001/jama.2023.7316.

## Discriminative Accuracy of the CAPTURE Tool for Identifying COPD

Nin-Chieh Hsu<sup>1</sup>, Hung-Bin Tsai<sup>2</sup>, Chia-Hao Hsu<sup>3</sup>

Affiliations expand

- PMID: 37314280
- DOI: [10.1001/jama.2023.7316](https://doi.org/10.1001/jama.2023.7316)

No abstract available

## Comment in

- [Discriminative Accuracy of the CAPTURE Tool for Identifying COPD-Reply.](#)

Martinez FJ, Mannino DM, Yawn BP.[JAMA](#). 2023 Jun 13;329(22):1987. doi: 10.1001/jama.2023.7319.PMID: 37314278 No abstract available.

## Comment on

- [Discriminative Accuracy of the CAPTURE Tool for Identifying Chronic Obstructive Pulmonary Disease in US Primary Care Settings.](#)

Martinez FJ, Han MK, Lopez C, Murray S, Mannino D, Anderson S, Brown R, Dolor R, Elder N, Joo M, Khan I, Knox LM, Meldrum C, Peters E, Spino C, Tapp H, Thomashow B, Zittleman L, Make B, Yawn BP; CAPTURE Study Group.[JAMA](#). 2023 Feb 14;329(6):490-501. doi: 10.1001/jama.2023.0128.PMID: 36786790

### SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

### FULL TEXT LINKS



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. 2023 Jun 13;329(22):1987.  
doi: 10.1001/jama.2023.7319.

# [Discriminative Accuracy of the CAPTURE Tool for Identifying COPD-Reply](#)

[Fernando J Martinez](#)<sup>1</sup>, [David M Mannino](#)<sup>2</sup>, [Barbara P Yawn](#)<sup>3</sup>

Affiliations expand

- PMID: 37314278
- DOI: [10.1001/jama.2023.7319](https://doi.org/10.1001/jama.2023.7319)

No abstract available

## Comment on

- [Discriminative Accuracy of the CAPTURE Tool for Identifying COPD.](#)  
Hsu NC, Tsai HB, Hsu CH.JAMA. 2023 Jun 13;329(22):1986-1987. doi: 10.1001/jama.2023.7316.PMID: 37314280 No abstract available.

## SUPPLEMENTARY INFO

Publication types, MeSH termsexpand

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Otolaryngol Head Neck Surg

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. 2023 Jun 14.

doi: 10.1002/ohn.395. Online ahead of print.

# [The Impact of Sinonasal Symptoms in Relation to Potentially Life-Threatening Comorbidities](#)

[Allen S Zhou](#)<sup>1</sup>, [Anthony A Prince](#)<sup>1</sup>, [Alice Z Maxfield](#)<sup>1</sup>, [Carleton Eduardo Corrales](#)<sup>1</sup>, [Jennifer J Shin](#)<sup>1,2</sup>

Affiliations expand

- PMID: 37313804
- DOI: [10.1002/ohn.395](https://doi.org/10.1002/ohn.395)

## Abstract

**Objective:** While general health may be influenced by sinonasal symptoms, their effects may be overshadowed by comorbid states which may be more serious. To assess the validity of this postulate, we measured the extent to which sinonasal symptoms and concurrent conditions influenced general health.

**Study design:** Observational outcomes study.

**Setting:** Academic medical center, community care sites.

**Methods:** Adults with sinonasal symptoms completed the 22-item Sinonasal Outcome Test, along with the Patient-Reported Outcomes Measurement Information System global health short form. Comorbidities were categorized with the Deyo modification of the Charlson comorbidity index. Multivariate regression analyses were utilized to determine the relative impact of sinonasal symptoms and concurrent comorbid conditions on general health.

**Results:** Data from 219 consecutive patients demonstrated that sinonasal symptoms were associated with significantly diminished general physical ( $\beta = -1.431$ ,  $p < .001$ ), mental ( $\beta = -1.000$ ,  $p < .001$ ), overall ( $\beta = -1.026$ ,  $p < .001$ ), and social health ( $\beta = -0.872$ ,  $p = .003$ ), regardless of the presence of potentially life-threatening comorbid conditions. Comorbid conditions included cardiovascular disease, chronic obstructive pulmonary disease, connective tissue disease, peptic ulcer, diabetes mellitus, and hepatic disease. The effect of sinonasal symptoms was neither subsumed nor overshadowed by the effects of comorbid states. Nasal, ear, sleep, and psychological domain scores were also associated with general physical, mental, and global health while adjusting for the impact of comorbidities.

**Conclusion:** Sinonasal symptoms have a substantial effect on general health which is not subsumed by the presence of potentially life-threatening concurrent comorbidities. These data may help support the importance of funding and resource allocation for conditions causing sinonasal symptoms.

**Keywords:** general quality-of-life; medical comorbidities; patient-reported outcome measure; sinonasal symptoms; validated instrument.

- [50 references](#)

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Respir Care

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. 2023 Jun 13;respcare.10917.

doi: 10.4187/respcare.10917. Online ahead of print.

## Minimally Important Difference of the 20-m 6-Min Walk Test in Individuals With COPD

Suelen R Klein<sup>1</sup>, Anelise B Munari<sup>1</sup>, Manuela Karloh<sup>2</sup>, Francieli C Mucha<sup>1</sup>, Isabela Jcs Silva<sup>1</sup>, Anamaria F Mayer<sup>3</sup>

Affiliations expand

- PMID: 37311628
- DOI: [10.4187/respcare.10917](https://doi.org/10.4187/respcare.10917)

### Abstract

**Background:** The 20-m 6-min-walk test (6MWT20) is a valid, reliable alternative for functional capacity assessment; however, its responsiveness and minimally important difference (MID) have yet to be investigated.

**Objective:** The aim of this study was to assess the responsiveness and MID of the 6MWT20 in individuals with COPD.

**Methods:** Fifty-three subjects completed the study from August 2011–March 2020. The following were assessed: lung function, activities of daily living (ADLs), functional capacity

6MWT20, dyspnea, health status, quality of life, and limitations in ADLs. The primary outcome was the 6MWT20 distance.

**Results:** The study demonstrated that the 6MWT20 is responsive to pulmonary rehabilitation (PR), with an average improvement of  $39 \pm 36.3$  m ( $P < .001$ ) and an effect size of 1.07. The learning effect declined to 1.45% after PR, with an intraclass correlation coefficient of 0.99 (95% CI 0.98-0.99). The receiver operating characteristic curve indicated a cutoff point of 20 m for the MID of the 6MWT20 based on the MIDs for the modified St George Respiratory Questionnaire (sensitivity 87%, specificity 69%, area under the curve 0.80 [95% CI 0.66-0.90],  $P < .001$ , Youden index 0.56) and the number of steps (sensitivity 92%, specificity 73%, area under the curve 0.83 [95% CI 0.70-0.92],  $P < .01$ , Youden index 0.56).

**Conclusions:** The 6MWT20 is responsive to PR, and the MID for the test is 20 m (17-47 m).

**Keywords:** COPD; activities of daily living; exercise; result assessment (health care); walking.

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Am J Respir Crit Care Med

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. 2023 Jun 13.

doi: 10.1164/rccm.202303-0404LE. Online ahead of print.

## Marijuana Use as a Risk Factor for COPD: Not There Yet

Donald P Tashkin<sup>1</sup>, Igor Barjaktarevic<sup>2</sup>

Affiliations expand

- PMID: 37311252

- DOI: [10.1164/rccm.202303-0404LE](https://doi.org/10.1164/rccm.202303-0404LE)

No abstract available

**Keywords:** COPD; Marijuana.

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Am J Respir Crit Care Med

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. 2023 Jun 13.

doi: 10.1164/rccm.202304-0691LE. Online ahead of print.

## [Cardiovascular Disease and COPD: Adding a Third Dimension to the ABE GOLD 2023 COPD Classification](#)

[Konstantinos Kostikas](#)<sup>1</sup>, [Athena Gogali](#)<sup>2</sup>, [Georgios Hillas](#)<sup>3</sup>

Affiliations expand

- PMID: 37311251
- DOI: [10.1164/rccm.202304-0691LE](https://doi.org/10.1164/rccm.202304-0691LE)

No abstract available

**Keywords:** GOLD COPD; cardiovascular disease; mortality; triple therapy.

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JAMA Intern Med

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. 2023 Jun 12.

doi: [10.1001/jamainternmed.2023.1554](https://doi.org/10.1001/jamainternmed.2023.1554). Online ahead of print.

## Easily Neglected Manifestations in Electrocardiogram in the Prone Position

[Hao Zhang<sup>1</sup>](#), [Tong Liu<sup>1</sup>](#), [Kang-Yin Chen<sup>1</sup>](#)

Affiliations expand

- PMID: 37306996
- DOI: [10.1001/jamainternmed.2023.1554](https://doi.org/10.1001/jamainternmed.2023.1554)

*No abstract available*

### Plain language summary

This case report describes a patient in their 70s with chronic obstructive pulmonary disease and hypertension who presented with a 2-day history of cough, expectoration, and shortness of breath.

#### FULL TEXT LINKS

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JAMA Internal Medicine

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Asian Pac J Allergy Immunol

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. 2023 Jun 11.

doi: 10.12932/AP-021222-1510. Online ahead of print.

# Phenotype characterization and biomarker evaluation in moderate to severe type 2-high asthma

Sahoko Imoto<sup>1,2</sup>, Maho Suzukawa<sup>1</sup>, Yuma Fukutomi<sup>3</sup>, Nobuyuki Kobayashi<sup>4</sup>, Masami

Taniguchi<sup>3,5</sup>, Takahide Nagase<sup>2</sup>, Ken Ohta<sup>1,6</sup>

Affiliations expand

- PMID: 37302094
- DOI: [10.12932/AP-021222-1510](https://doi.org/10.12932/AP-021222-1510)

## Abstract

**Background:** There are two major pathological phenotypes of asthma, type 2 (T2)-high and T2-low asthma, which are important in determining treatment strategies. However, the characteristics and phenotypes of T2-high asthma have not yet been fully identified.

**Objective:** This study aimed to identify the clinical characteristics and phenotypes of patients with T2-high asthma.

**Methods:** This study used data from a nationwide asthma cohort study in Japan, NHOM Asthma Study. T2-high asthma was defined as a blood eosinophils count  $\geq 300 / \mu\text{L}$  and/or fractional exhaled nitric oxide level  $\geq 25 \text{ ppb}$ , and the clinical characteristics and biomarkers were compared between T2-high and T2-low asthma. Furthermore, T2-high asthma was phenotyped via hierarchical cluster analysis using Ward's method.

**Results:** Patients with T2-high asthma were older, less likely to be female, had longer asthma duration, had lower pulmonary function, and had more comorbidities, including sinusitis and SAS. Patients with T2-high asthma showed higher serum thymus and activation-regulated chemokine and urinary leukotriene E4 levels and lower serum ST2 levels than those with T2-low asthma. There were four phenotypes among patients with

T2-high asthma: Cluster 1 (youngest, early-onset, and atopic), Cluster 2 (long duration, eosinophilic, and low lung function), Cluster 3 (elderly, female-dominant, and late-onset), and Cluster 4 (elderly, late-onset, and asthma-COPD overlap-dominant).

**Conclusions:** Patients with T2-high asthma have distinct characteristics and four distinct phenotypes, in which eosinophil-dominant Cluster 2 is the most severe phenotype. The present findings may be useful in precision medicine for asthma treatment in the future.

#### FULL TEXT LINKS



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. 2023 Jun 15;61(6):2201667.

doi: 10.1183/13993003.01667-2022. Print 2023 Jun.

## Genome-wide association study of chronic sputum production implicates loci involved in mucus production and infection

Richard J Packer<sup>1,2</sup>, Nick Shrine<sup>3</sup>, Robert Hall<sup>4</sup>, Carl A Melbourne<sup>3</sup>, Rebecca Thompson<sup>4</sup>, Alex T Williams<sup>3</sup>, Megan L Paynton<sup>3</sup>, Anna L Guyatt<sup>3</sup>, Richard J Allen<sup>3</sup>, Paul H Lee<sup>3</sup>, Catherine John<sup>3,2</sup>, Archie Campbell<sup>5</sup>, Caroline Hayward<sup>6</sup>, Maaike de Vries<sup>7</sup>, Judith M Vonk<sup>7</sup>, Jonathan Davitte<sup>8</sup>, Edith Hessel<sup>9</sup>, David Michalovich<sup>9</sup>, Joanna C Betts<sup>9</sup>, Ian Sayers<sup>4</sup>, Astrid Yeo<sup>9</sup>, Ian P Hall<sup>4</sup>, Martin D Tobin<sup>3,2</sup>, Louise V Wain<sup>3,2</sup>

Affiliations expand

- PMID: 37263751
- DOI: [10.1183/13993003.01667-2022](https://doi.org/10.1183/13993003.01667-2022)

## Abstract

**Background:** Chronic sputum production impacts on quality of life and is a feature of many respiratory diseases. Identification of the genetic variants associated with chronic sputum production in a disease agnostic sample could improve understanding of its causes and identify new molecular targets for treatment.

**Methods:** We conducted a genome-wide association study (GWAS) of chronic sputum production in UK Biobank. Signals meeting genome-wide significance ( $p < 5 \times 10^{-8}$ ) were investigated in additional independent studies, were fine-mapped and putative causal genes identified by gene expression analysis. GWASs of respiratory traits were interrogated to identify whether the signals were driven by existing respiratory disease among the cases and variants were further investigated for wider pleiotropic effects using phenome-wide association studies (PheWASs).

**Results:** From a GWAS of 9714 cases and 48 471 controls, we identified six novel genome-wide significant signals for chronic sputum production including signals in the human leukocyte antigen (HLA) locus, chromosome 11 mucin locus (containing *MUC2*, *MUC5AC* and *MUC5B*) and *FUT2* locus. The four common variant associations were supported by independent studies with a combined sample size of up to 2203 cases and 17 627 controls. The mucin locus signal had previously been reported for association with moderate-to-severe asthma. The HLA signal was fine-mapped to an amino acid change of threonine to arginine (frequency 36.8%) in HLA-DRB1 (*HLA-DRB1\*03:147*). The signal near *FUT2* was associated with expression of several genes including *FUT2*, for which the direction of effect was tissue dependent. Our PheWAS identified a wide range of associations including blood cell traits, liver biomarkers, infections, gastrointestinal and thyroid-associated diseases, and respiratory disease.

**Conclusions:** Novel signals at the *FUT2* and mucin loci suggest that mucin fucosylation may be a driver of chronic sputum production even in the absence of diagnosed respiratory disease and provide genetic support for this pathway as a target for therapeutic intervention.

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## Conflict of interest statement

Conflict of interest: L.V. Wain, M.D. Tobin, I. Sayers and I.P. Hall report collaborative research funding from GSK to undertake the submitted work. L.V. Wain, M.D. Tobin, C. John, A.L. Guyatt and R.J. Packer report funding from Orion Pharma, outside of the submitted work. L.V. Wain reports consultancy for Galapagos. J. Davitte, E. Hessel, D. Michalovich, J.C. Betts and A. Yeo were employees of GSK at the time of this study. D.

Michalovich is an employee of Benevolent AI. C.A. Melbourne is an employee of Mirador Analytics. N. Shrine, R. Hall, R. Thompson, A.T. Williams, M.L. Paynton, P.H. Lee, A. Campbell, C. Hayward, M. de Vries, R.J. Allen and J.M. Vonk report no competing interests.

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[Editorial](#)

Am J Respir Crit Care Med

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. 2023 Jun 15;207(12):1546-1548.

doi: 10.1164/rccm.202303-0610ED.

## [CEACAM6: A Novel Marker of Chronic Obstructive Pulmonary Disease Susceptibility?](#)

[Alexandra C Racanelli<sup>1</sup>](#), [Augustine M K Choi<sup>1</sup>](#)

Affiliations expand

- PMID: 37219336
  
- PMCID: [PMC10273108](#)
  
  
- DOI: [10.1164/rccm.202303-0610ED](https://doi.org/10.1164/rccm.202303-0610ED)

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### Comment on

- [CEACAM6 as a Novel Therapeutic Target to Boost HO-1-mediated Antioxidant Defense in COPD.](#)

Wu CY, Cilic A, Pak O, Dartsch RC, Wilhelm J, Wujak M, Lo K, Brosien M, Zhang R, Alkoudmani I, Witte B, Pedersen F, Watz H, Voswinckel R, Günther A, Ghofrani HA, Brandes RP, Schermuly RT, Grimminger F, Seeger W, Sommer N, Weissmann N, Hadzic S. *Am J Respir Crit Care Med*. 2023 Jun 15;207(12):1576-1590. doi: 10.1164/rccm.202208-1603OC. PMID: 37219322

- [19 references](#)

#### SUPPLEMENTARY INFO

Publication types, Grant supportexpand

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. 2023 Jun 15;207(12):1576-1590.

doi: 10.1164/rccm.202208-1603OC.

# [CEACAM6 as a Novel Therapeutic Target to Boost HO-1-mediated Antioxidant Defense in COPD](#)

Cheng-Yu Wu<sup>1</sup>, Anis Cilic<sup>1</sup>, Oleg Pak<sup>1</sup>, Ruth Charlotte Dartsch<sup>1</sup>, Jochen Wilhelm<sup>1,2</sup>, Magdalena Wujak<sup>1,3</sup>, Kevin Lo<sup>1</sup>, Monika Brosien<sup>1</sup>, Ruoyu Zhang<sup>4</sup>, Ibrahim Alkoudmani<sup>4</sup>, Biruta Witte<sup>4</sup>, Frauke Pedersen<sup>5</sup>, Henrik Watz<sup>5</sup>, Robert Voswinckel<sup>6</sup>, Andreas Günther<sup>1</sup>, Hossein A Ghofrani<sup>1</sup>, Ralf P Brandes<sup>7</sup>, Ralph T Schermuly<sup>1</sup>, Friedrich Grimminger<sup>1,2</sup>, Werner Seeger<sup>1,2,8</sup>, Natascha Sommer<sup>1</sup>, Norbert Weissmann<sup>1</sup>, Stefan Hadzic<sup>1</sup>

Affiliations expand

- PMID: 37219322

- DOI: [10.1164/rccm.202208-1603OC](https://doi.org/10.1164/rccm.202208-1603OC)

## Abstract

**Rationale:** Tobacco smoking and air pollution are primary causes of chronic obstructive pulmonary disease (COPD). However, only a minority of smokers develop COPD. The mechanisms underlying the defense against nitrosative/oxidative stress in nonsusceptible smokers to COPD remain largely unresolved. **Objectives:** To investigate the defense mechanisms against nitrosative/oxidative stress that possibly prevent COPD development or progression. **Methods:** Four cohorts were investigated: 1) sputum samples (healthy,  $n = 4$ ; COPD,  $n = 37$ ), 2) lung tissue samples (healthy,  $n = 13$ ; smokers without COPD,  $n = 10$ ; smoker+COPD,  $n = 17$ ), 3) pulmonary lobectomy tissue samples (no/mild emphysema,  $n = 6$ ), and 4) blood samples (healthy,  $n = 6$ ; COPD,  $n = 18$ ). We screened 3-nitrotyrosine (3-NT) levels, as indication of nitrosative/oxidative stress, in human samples. We established a novel *in vitro* model of a cigarette smoke extract (CSE)-resistant cell line and studied 3-NT formation, antioxidant capacity, and transcriptomic profiles. Results were validated in lung tissue, isolated primary cells, and an *ex vivo* model using adeno-associated virus-mediated gene transduction and human precision-cut lung slices. **Measurements and Main Results:** 3-NT levels correlate with COPD severity of patients. In CSE-resistant cells, nitrosative/oxidative stress upon CSE treatment was attenuated, paralleled by profound upregulation of heme oxygenase-1 (HO-1). We identified carcinoembryonic antigen cell adhesion molecule 6 (CEACAM6) as a negative regulator of HO-1-mediated nitrosative/oxidative stress defense in human alveolar type 2 epithelial cells (hAEC2s). Consistently, inhibition of HO-1 activity in hAEC2s increased the susceptibility toward CSE-induced damage. Epithelium-specific CEACAM6 overexpression increased nitrosative/oxidative stress and cell death in human precision-cut lung slices on CSE treatment. **Conclusions:** CEACAM6 expression determines the hAEC2 sensitivity to nitrosative/oxidative stress triggering emphysema development/progression in susceptible smokers.

**Keywords:** 3-nitrotyrosine; COPD; antioxidant defense; cigarette smoke; lung emphysema.

## Comment in

- [CEACAM6: A Novel Marker of Chronic Obstructive Pulmonary Disease Susceptibility?](#)

Racanelli AC, Choi AMK. Am J Respir Crit Care Med. 2023 Jun 15;207(12):1546-1548.  
doi: 10.1164/rccm.202303-0610ED. PMID: 37219336 **Free PMC article.** No abstract available.

Grant supportexpand

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

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BMJ Open

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. 2023 Jun 16;13(6):e072934.

doi: 10.1136/bmjopen-2023-072934.

## A hypothesis - generating Swedish extended national cross-sectional family study of multimorbidity severity and venous thromboembolism

[Jonatan Ahrén<sup>1</sup>](#), [MirNabi Pirouzifard<sup>2</sup>](#), [Björn Holmquist<sup>3</sup>](#), [Jan Sundquist<sup>2</sup>](#), [Anders Halling<sup>2</sup>](#), [Kristina Sundquist<sup>2</sup>](#), [Bengt Zöller<sup>2</sup>](#)

Affiliations expand

- PMID: 37328186
- DOI: [10.1136/bmjopen-2023-072934](https://doi.org/10.1136/bmjopen-2023-072934)

## Abstract

**Objectives:** Venous thromboembolism (VTE) is a common worldwide disease. The burden of multimorbidity, that is, two or more chronic diseases, has increased. Whether multimorbidity is associated with VTE risk remains to be studied. Our aim was to determine

any association between multimorbidity and VTE and any possible shared familial susceptibility.

**Design:** A nationwide extended cross-sectional hypothesis - generating family study between 1997 and 2015.

**Setting:** The Swedish Multigeneration Register, the National Patient Register, the Total Population Register and the Swedish cause of death register were linked.

**Participants:** 2 694 442 unique individuals were analysed for VTE and multimorbidity.

**Main outcomes and measures:** Multimorbidity was determined by a counting method using 45 non-communicable diseases. Multimorbidity was defined by the occurrence of  $\geq 2$  diseases. A multimorbidity score was constructed defined by 0, 1, 2, 3, 4 or 5 or more diseases.

**Results:** Sixteen percent ( $n=440\ 742$ ) of the study population was multimorbid. Of the multimorbid patients, 58% were females. There was an association between multimorbidity and VTE. The adjusted odds ratio (OR) for VTE in individuals with multimorbidity ( $2 \geq$  diagnoses) was 3.16 (95% CI: 3.06 to 3.27) compared with individuals without multimorbidity. There was an association between number of diseases and VTE. The adjusted OR was 1.94 (95% CI: 1.86 to 2.02) for one disease, 2.93 (95% CI: 2.80 to 3.08) for two diseases, 4.07 (95% CI: 3.85 to 4.31) for three diseases, 5.46 (95% CI: 5.10 to 5.85) for four diseases and 9.08 (95% CI: 8.56 to 9.64) for  $5 \geq$  diseases. The association between multimorbidity and VTE was stronger in males OR 3.45 (3.29 to 3.62) than in females OR 2.91 (2.77 to 3.04). There were significant but mostly weak familial associations between multimorbidity in relatives and VTE.

**Conclusions:** Increasing multimorbidity exhibits a strong and increasing association with VTE. Familial associations suggest a weak shared familial susceptibility. The association between multimorbidity and VTE suggests that future cohort studies where multimorbidity is used to predict VTE might be worthwhile.

**Keywords:** EPIDEMIOLOGY; GENERAL MEDICINE (see Internal Medicine); Primary Health Care; Thromboembolism; Vascular medicine.

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## Conflict of interest statement

Competing interests: None declared.

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. 2023 Jun 15;10:1212/WNL.0000000000207479.

doi: 10.1212/WNL.0000000000207479. Online ahead of print.

# Associations of Multimorbidity With Stroke Severity, Subtype, Premorbid Disability, and Early Mortality: Oxford Vascular Study

[Matthew B Downer](#)<sup>1</sup>, [Linxin Li](#)<sup>1</sup>, [Samantha Carter](#)<sup>1</sup>, [Sally Beebe](#)<sup>1</sup>, [Peter M Rothwell](#)<sup>2</sup>

Affiliations expand

- PMID: 37321865
- DOI: [10.1212/WNL.0000000000207479](https://doi.org/10.1212/WNL.0000000000207479)

## Abstract

**Background and objectives:** Patients with multimorbidity are under-represented in clinical trials. Inclusion in stroke trials is often limited by exclusion based on pre-morbid disability, concerns about worse post-stroke outcomes in acute treatment trials, and a possibly increased proportion of haemorrhagic vs ischaemic stroke in prevention trials. Multimorbidity is associated with increased mortality after stroke, but it is unclear whether this is driven by increased stroke severity, or is confounded by particular stroke subtypes or premorbid disability. We aimed to determine the independent association of multimorbidity with stroke severity taking account of these main potential confounders.

**Methods:** In a population-based incidence study (Oxford Vascular Study; 2002-2017), pre-stroke multimorbidity (Charlson Comorbidity Index-CCI; unweighted/weighted) in all first-in-study strokes was related to post-acute severity ( $\approx$ 24 hours; NIH Stroke Scale-NIHSS), stroke subtype (haemorrhagic vs ischaemic; Trial of Org 10172 in Acute Stroke Treatment-

TOAST), and pre-morbid disability (modified Rankin score/mRS $\geq$ 2) using age/sex-adjusted logistic and linear regression models, and to 90-day mortality using Cox proportional hazard models.

**Results:** Among 2492 patients (mean/SD age=74.5/13.9; 1216/48.8% male; 2160/86.7% ischaemic strokes; mean/SD NIHSS=5.7/7.1), 1402/56.2% had at least one CCI comorbidity, and 700/28.1% had multimorbidity. Although multimorbidity was strongly related to pre-morbid mRS $\geq$ 2 (aOR for per CCI comorbidity=1.42, 1.31-1.54,  $p<0.001$ ) and comorbidity burden was crudely associated with increased severity of ischaemic stroke (OR per comorbidity: 1.12, 1.01-1.23 for NIHSS 5-9,  $p=0.027$ ; 1.15, 1.06-1.26, for NIHSS $\geq$ 10;  $p=0.001$ ), no association with severity remained after stratification by TOAST subtype (aOR=1.02, 0.90-1.14,  $p=0.78$  for NIHSS 5-9 vs 0-4: 0.99, 0.91-1.07,  $p=0.75$  for NIHSS $\geq$ 10 vs 0-4), or within any individual subtype. The proportion of intracerebral haemorrhage versus ischaemic stroke was lower in patients with multimorbidity (aOR per comorbidity=0.80, 0.70-0.92,  $p<0.001$ ), and multimorbidity was only weakly associated with 90-day mortality after adjustment for age, sex, severity, and pre-morbid disability (aHR per comorbidity=1.09, 1.04-1.14,  $p<0.001$ ). Results were unchanged using the weighted CCI.

**Discussion:** Multimorbidity is common in patients with stroke and is strongly related to pre-morbid disability, but is not independently associated with increased ischaemic stroke severity. Greater inclusion of patients with multimorbidity is unlikely therefore to undermine the effectiveness of interventions in clinical trials, but would increase external validity.

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. 2023 Jun 12;22(1):135.

doi: 10.1186/s12933-023-01858-9.

# Duration-dependent impact of cardiometabolic diseases and multimorbidity on all-cause and cause-specific mortality: a prospective cohort study of 0.5 million participants

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Affiliations expand

- PMID: 37308998
- PMCID: [PMC10262418](#)
- DOI: [10.1186/s12933-023-01858-9](https://doi.org/10.1186/s12933-023-01858-9)

**Free PMC article**

## Abstract

**Background:** The association of incident cardiometabolic multimorbidity (CMM) with mortality risk is rarely studied, and neither are the durations of cardiometabolic diseases (CMDs). Whether the association patterns of CMD durations with mortality change as individuals progress from one CMD to CMM is unclear.

**Methods:** Data from China Kadoorie Biobank of 512,720 participants aged 30-79 was used. CMM was defined as the simultaneous presence of two or more CMDs of interest, including diabetes, ischemic heart disease, and stroke. Cox regression was used to estimate the hazard ratios (HRs) and 95% confidence intervals (CIs) for the duration-dependent associations of CMDs and CMM with all-cause and cause-specific mortality. All information on exposures of interest was updated during follow-up.

**Results:** During a median follow-up of 12.1 years, 99,770 participants experienced at least one incident CMD, and 56,549 deaths were documented. Among 463,178 participants free of three CMDs at baseline, compared with no CMD during follow-up, the adjusted HRs (95% CIs) between CMM and all-cause mortality, mortality from circulatory system

diseases, respiratory system diseases, cancer, and other causes were 2.93 (2.80-3.07), 5.05 (4.74-5.37), 2.72 (2.35-3.14), 1.30 (1.16-1.45), and 2.30 (2.02-2.61), respectively. All CMDs exhibited a high mortality risk in the first year of diagnosis. Subsequently, with prolonged disease duration, mortality risk increased for diabetes, decreased for IHD, and sustained at a high level for stroke. With the presence of CMM, the above association estimates inflated, but the pattern of which remained.

**Conclusion:** Among Chinese adults, mortality risk increased with the number of the CMDs and changed with prolonged disease duration, the patterns of which varied among the three CMDs.

**Keywords:** Cardiometabolic disease; Mortality; Multimorbidity; Prospective cohort.

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- [30 references](#)

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J Intern Med

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. 2023 Jun 12.

doi: 10.1111/joim.13683. Online ahead of print.

## Multimorbidity patterns and 18-years transitions from normal cognition to dementia and death: A population-based study

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Affiliations expand

- PMID: 37306092
- DOI: [10.1111/joim.13683](https://doi.org/10.1111/joim.13683)

## Abstract

**Background:** Several chronic diseases accelerate cognitive decline; however, it is still unknown how different patterns of multimorbidity influence individuals' trajectories across the cognitive continuum.

**Objectives:** We aimed to investigate the impact of multimorbidity and of specific multimorbidity patterns on the transitions across cognitive stages (normal cognition, cognitive impairment, no dementia[CIND], dementia) and death.

**Methods:** We included 3122 dementia-free individuals from the Swedish National study on Aging and Care in Kungsholmen (SNAC-K). Using fuzzy c-means cluster analysis, multimorbid participants were classified into mutually exclusive groups characterized by commonly coexisting chronic diseases. Participants were followed up to 18 years to detect incident CIND, dementia or death. Transition hazard ratios, life expectancies and time spent in different cognitive stages were estimated using multistate Markov models.

**Results:** At baseline, five multimorbidity patterns were identified: neuropsychiatric, cardiovascular, sensory impairment/cancer, respiratory/metabolic/musculoskeletal and unspecific. Compared to the unspecific pattern, the neuropsychiatric and sensory impairment/cancer ones showed reduced hazards of reverting from CIND to normal cognition (HR 0.53, 95%CI 0.33-0.85 and HR 0.60, 95%CI 0.39-0.91). Participants in the cardiovascular pattern exhibited an increased hazard of progression from CIND to dementia (HR 1.70, 95%CI 1.15-2.52) and for all transitions to death. Subjects with the neuropsychiatric and cardiovascular patterns showed reduced life expectancy at age 75, with an anticipation of CIND (up to 1.6 and 2.2 years, respectively) and dementia onset (up to 1.8 and 3.3 years, respectively).

**Conclusions:** Multimorbidity patterns differentially steer individual trajectories across the cognitive continuum of older adults and may be used as a risk stratification tool. This article is protected by copyright. All rights reserved.

**Keywords:** Dementia; comorbidity; mild cognitive impairment; multimorbidity; multimorbidity patterns; population-based study.

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Int J Cancer

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. 2023 Jun 15;152(12):2485-2492.

doi: 10.1002/ijc.34476. Epub 2023 Mar 1.

## Multimorbidity in patients with monoclonal gammopathy of undetermined significance

[Mara M Epstein](#)<sup>1,2</sup>, [Yanhua Zhou](#)<sup>1,2</sup>, [Maira A Castaneda-Avila](#)<sup>3</sup>, [Harvey J Cohen](#)<sup>4</sup>

Affiliations expand

- PMID: 36799553
  
- DOI: [10.1002/ijc.34476](https://doi.org/10.1002/ijc.34476)

## Abstract

Monoclonal gammopathy of undetermined significance (MGUS), a precursor to multiple myeloma, is present in over 5% of adults aged 70 and older, a population with a high prevalence of multimorbidity. MGUS is often diagnosed incidentally when patients seek care for unrelated conditions. Our study sought to examine patterns of multimorbidity among MGUS patients, as overall health may impact patient care and the prioritization of MGUS surveillance. We examined patterns of comorbidities in 429 patients diagnosed with MGUS (2007-2015) and 1287 matched controls. Twenty-seven conditions were defined at diagnosis/index date using algorithms developed by the Centers for Medicare and Medicaid Chronic Conditions Warehouse. Patterns of common comorbidities were identified individually, in dyads and triads, and compared between MGUS cases and

controls. We conducted a latent class analysis to identify comorbidity patterns among cases only. We also examined comorbidity patterns among a subset of 32 MGUS cases who progressed to cancer during the study period. The most common comorbidities among both MGUS cases and controls included hypertension and hyperlipidemia. Anemia (cases: 43%; controls: 16%) and chronic kidney disease (CKD; cases: 36%; controls: 18%), and dyads and triads containing those conditions, were more common among cases. Latent class analysis identified three classes of comorbidity among MGUS cases: hypertension-hyperlipidemia plus anemia and CKD (31%); low comorbidity burden (17%); and hypertension-hyperlipidemia alone (52%). The higher prevalence among cases of anemia and CKD, which may be involved in the pathogenesis of, or surveillance for, MGUS, warrants additional investigation.

**Keywords:** electronic health data; epidemiology; latent class analysis; monoclonal gammopathy of undetermined significance; multimorbidity.

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- [26 references](#)

#### SUPPLEMENTARY INFO

Publication types, MeSH terms, Grant supportexpand

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

1

BMJ Open

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. 2023 Jun 16;13(6):e071159.  
doi: 10.1136/bmjopen-2022-071159.

## Prevalence and impact of exercise-induced laryngeal obstruction in

# asthma: a study protocol for a cross-sectional and longitudinal study

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Affiliations expand

- PMID: 37328176
- DOI: [10.1136/bmjopen-2022-071159](https://doi.org/10.1136/bmjopen-2022-071159)

## Abstract

**Introduction:** Exercise-induced laryngeal obstruction (EILO) and exercise-induced asthma can cause troublesome respiratory symptoms that can be difficult to distinguish between. Further, there is now a growing appreciation that the two conditions may *coexist*, complicating the interpretation of symptoms. The primary aim of this study is to investigate the prevalence of EILO in patients with asthma. Secondary aims include evaluation of EILO treatment effects and investigation of comorbid conditions other than EILO in patients with asthma.

**Methods and analysis:** The study will be conducted at Haukeland University Hospital and Voss Hospital in Western Norway, and enrol 80-120 patients with asthma and a control group of 40 patients without asthma. Recruitment started in November 2020, and data sampling will continue until March 2024. Laryngeal function will be assessed at baseline and at a 1-year follow-up, using continuous laryngoscopy during high-intensity exercise (CLE). Immediately after the EILO diagnosis is verified, patients will be treated with standardised breathing advice guided by visual biofeedback from the laryngoscope video screen. The primary outcome will be the prevalence of EILO in patients with asthma and control participants. Secondary outcomes include changes in CLE scores, asthma-related quality of life, asthma control and number of the asthma exacerbations, as assessed between baseline and the 1-year follow-up.

**Ethics and dissemination:** Ethical approval has been obtained from the Regional Committee for Medical and Health Research Ethics, Western Norway, (ID number 97615). All participants will provide signed informed consent before enrolment. The results will be presented in international journals and conferences.

**Trial registration number:** [NCT04593394](https://www.clinicaltrials.gov/ct2/show/NCT04593394).

**Keywords:** Adult thoracic medicine; Asthma; Laryngology; Physiology; Thoracic medicine.

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## Conflict of interest statement

Competing interests: None declared.

### SUPPLEMENTARY INFO

Associated dataexpand

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J Allergy Clin Immunol Pract

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. 2023 Jun 14;S2213-2198(23)00656-6.

doi: 10.1016/j.jaip.2023.06.014. Online ahead of print.

# Phenotyping Occupational Asthma Caused by Platinum Salts Compared to Other Low-molecular-weight Agents

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Affiliations expand

- PMID: 37328060
- DOI: [10.1016/j.jaip.2023.06.014](https://doi.org/10.1016/j.jaip.2023.06.014)

No abstract available

**Keywords:** Fractional exhaled nitric oxide; occupational asthma; occupational rhinitis; platinum salts; specific inhalation challenge.

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Ann Allergy Asthma Immunol

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. 2023 Jun 14;S1081-1206(23)00407-6.

doi: 10.1016/j.anai.2023.05.036. Online ahead of print.

## ACAAI members' preferred step 1-3 asthma maintenance and reliever therapy and incomplete insurance coverage indicated as main practice hurdle

Désirée Larenas-Linnemann<sup>1</sup>, Jonathan Romeo<sup>2</sup>, Barbara Ariue<sup>3</sup>, John Oppenheimer<sup>4</sup>

Affiliations expand

- PMID: 37328056
- DOI: [10.1016/j.anai.2023.05.036](https://doi.org/10.1016/j.anai.2023.05.036)

## Abstract

**Background:** New asthma guidelines (GINA, 2022; NAEPP EPR-4, 2020), include considerable changes in treatment recommendations, specifically regarding anti-inflammatory rescue and Single MAintenance and Reliever Therapy (SMART).

**Objective:** We wanted to explore ACAAI members' preferred treatment and perceived hurdles.

**Methods:** A survey (SurveyMonkey®) regarding step1-step3 asthma therapy was emailed to ACAAI members.

**Results:** Allergists completed 147 surveys (46% >20y experience; 98% from US; 29% academic, 75% (also) private practice). 69% follow NAEPP, 81% GINA recommendations. 117/147 (80%) indicated correctly what SMART strategy is; 21/36/50/39% would use SMART in step 3 treatment of a <5yo/5-11yo/12-65/>65yo patient, respectively. In this group, 11-14% incorrectly chose ICS+salmeterol, and 9% ICS+vilanterol for SMART. In a 4yo needing Step 1 therapy (N=129), 55% of the respondents would add anti-inflammatory therapy; for step 2 treatment, most would prescribe inhaled corticosteroid (ICS) 100-200mcg BUDeq daily; while in step 3, 49% would prescribe ICS+LABA. In a 7yo needing step 1 treatment (N=134), 40% would prescribe only SABA; in step 3, 45% would institute SMART strategy, but only 8/135 (6%) chose very-low dose ICS+FORM (as recommended in GINA); most (39%) use low-dose ICS+FORM. As for rescue therapy 59% is now instituting some form of anti-inflammatory rescue. Finally, in a 25yo patient (N=144): in step 1, 39% would prescribe exclusively SABA; in step 2, 4% only anti-inflammatory rescue, the rest prescribes ICS maintenance; one-third begins SMART strategy at step 2, 50% in step 3. Major hurdles for prescribing one's preferred strategy included incomplete insurance coverage, insurance not approving more than one canister of ICS-FORM per month and cost.

**Conclusion:** Asthma therapy varies among physicians, with respondents suggesting underutilization of the recommended anti-inflammatory rescue and SMART therapy. A major hurdle is lack of insurance coverage of medication in line with guidelines.

**Keywords:** Asthma, therapy; anti-inflammatory rescue; beta2-agonists; inhaled corticosteroids; leukotriene receptor antagonists; maintenance and reliever therapy; muscarinic antagonists.

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Respir Med

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- . 2023 Jun 14;107326.  
doi: 10.1016/j.rmed.2023.107326. Online ahead of print.

# Mild asthma: Lessons learned and remaining questions

[Arjun Mohan](#)<sup>1</sup>, [Njira L Lugogo](#)<sup>2</sup>

Affiliations expand

- PMID: 37328016
- DOI: [10.1016/j.rmed.2023.107326](https://doi.org/10.1016/j.rmed.2023.107326)

## Abstract

Patients living with mild disease represent the largest proportion of asthma patients. There are significant challenges in proposing a definition that would best describe these patients, while also accurately identifying at-risk individuals. Current literature suggests considerable inflammatory and clinical heterogeneity within this group. Research has shown that these patients are at risk of poor control, exacerbations, lung function decline, and death. Despite conflicting data on its prevalence, eosinophilic inflammation appears to be a predictor of poorer outcomes in mild asthma. There is an immediate need to better understand phenotypic clusters in mild asthma. It is also important to understand factors that influence disease progression and remission, as it is evident that both vary in mild asthma. Guided by robust literature that supports inhaled corticosteroid-based strategies over short-acting beta-agonist (SABA) reliant regimens, the management of these patients has evolved considerably. Unfortunately, SABA use remains high in clinical practice despite strong advocacy from the Global Initiative for Asthma. Future mild asthma research should explore the role of biomarkers, develop prediction tools based on composite risk scores, and explore targeted therapies at least for at-risk individuals.

**Keywords:** Future research; Inflammation; Management; Mild asthma; Risks.

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## Conflict of interest statement

Declaration of competing interest AM- Nothing to disclose. NLL- Research: GSK, Genentech, Astra Zeneca, SANOFI, TEVA, Regeneron, Avillion, Gossamer.

Consultation/Advisory Board: TEVA, GSK, AstraZeneca, SANOFI, Genentech, Novartis, Regeneron, Amgen. Speaker fees for non-speaker's bureau scientific talks: Astra Zeneca and GSK.

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Expert Rev Clin Immunol

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. 2023 Jun 16.

doi: 10.1080/1744666X.2023.2226869. Online ahead of print.

# Definition of severity and treatment response in chronic rhinosinusitis with nasal polyps: a Delphi study among French experts

Florent Carsuzaa<sup>1,2</sup>, Léa Fath<sup>3,4</sup>, Maxime Fieux<sup>5,6,7,8</sup>, Sophie Bartier<sup>7,8,9</sup>, Guillaume de Bonnecaze<sup>10,11</sup>, Cécile Rumeau<sup>12,13</sup>, Justin Michel<sup>14</sup>, Jean-François Papon<sup>7,8,15,16</sup>, Mihaela Alexandru<sup>15,16,17</sup>, Valentin Favier<sup>18,19</sup>

Affiliations expand

- PMID: 37327360
- DOI: [10.1080/1744666X.2023.2226869](https://doi.org/10.1080/1744666X.2023.2226869)

## Abstract

**Introduction:** The introduction of biotherapies has significantly changed the management of patients with chronic rhinosinusitis with nasal polyps (CRSwNP). These drugs are generally reserved for severe or recurrent CRSwNP. Thus, the concepts of severity of the

disease and treatment response must be mastered by otorhinolaryngologists. However, a clear definition of these concepts in CRSwNP is missing.

**Methods:** This article focuses on definitions of severity and treatment response in CRSwNP by providing an expert consensus among French rhinologists, using a Delphi study.

**Results:** The severity assessment should seek the presence of uncontrolled asthma, olfactory disorders, nasal blockage, impaired quality of life (QOL) and cumulative annual dose of systemic corticosteroids. The treatment response should assess the presence of olfactory disorders, nasal blockage, QOL impairment, response to background therapy, resistance and/or dependence to oral corticosteroids, cumulative annual dose of systemic corticosteroids, response to surgery and to biologics. A failure after polypectomy should not be considered as a failure of surgical management of CRSwNP and must discuss the realization of an extended sinus surgery procedure before the prescription of biologics.

**Conclusion:** Definitions of severity, control of CRSwNP, as well as therapeutic strategies to improve patients' QOL achieved high level of consensus.

**Keywords:** CRSwNP; nasal polyposis; severity; systemic corticosteroids; treatment response.

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Rheumatology (Oxford)

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. 2023 Jun 16;kead302.

doi: 10.1093/rheumatology/kead302. Online ahead of print.

## Azathioprine vs methotrexate in eosinophilic granulomatosis with polyangiitis: a monocentric retrospective study

[Alessandra Milanesi](#)<sup>1,2</sup>, [Paolo Delvino](#)<sup>1,2</sup>, [Silvana Quaglini](#)<sup>3</sup>, [Carlomaurozio Montecucco](#)<sup>1,2</sup>, [Sara Monti](#)<sup>1,2</sup>

Affiliations expand

- PMID: 37326880
- DOI: [10.1093/rheumatology/kead302](https://doi.org/10.1093/rheumatology/kead302)

## Abstract

**Objectives:** To analyse effectiveness, safety, and steroid-sparing effect of AZA and MTX as induction of remission and maintenance treatment in eosinophilic granulomatosis with polyangiitis.

**Methods:** We retrospectively collected data from 57 patients divided in 4 groups according to treatment: MTX/AZA as first-line agents (MTX1/AZA1) in non-severe disease, or as second-line maintenance therapy (MTX2/AZA2) in severe disease previously treated with CYC/rituximab. During the first five years of treatment with AZA/MTX we compared the groups according to: remission rate (defined as R1: BVAS = 0, R2: BVAS = 0 with prednisone ≤5mg/day, R3-MIRRA definition: BVAS = 0 with prednisone ≤ 3.75 mg/day), persistence on therapy, cumulative glucocorticoid (GC) dose, relapse, and adverse events (AE).

**Results:** There were no significant differences in remission rates (R1) in each group (63% in MTX1 vs 75% in AZA1, p= 0.53; 91% in MTX2 vs 71% in AZA2, p= 0.23). MTX1 allowed R2 more frequently in the first 6 months compared with AZA1 (54% vs 12%, p= 0.04); no patients receiving AZA1 achieved R3 up to the first 18 months (vs 35% in MTX1, p= 0.07). Cumulative GC dose was lower for MTX2 vs AZA2 (6 g vs 10.7 g at 5 years, p= 0.03). MTX caused more AE compared with AZA (66% vs 30%, p= 0.004), without affecting the suspension rate. No differences emerged in time-to-first relapse, although fewer patients treated with AZA2 had asthma/ENT relapses (23% vs 64%, p= 0.04).

**Conclusion:** A significant proportion of patients achieved remission with both MTX and AZA. MTX1 had an earlier remission on lower GC dose, MTX2 had better steroid-sparing effect.

**Keywords:** Churg-Strauss syndrome; DMARDs; Immunosuppressants; Rare diseases; Vasculitis.

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Monaldi Arch Chest Dis

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. 2023 Jun 15.

doi: 10.4081/monaldi.2023.2640. Online ahead of print.

# Correlation between gastro-oesophageal reflux disease (GERD) lung volumes and exacerbation of bronchial asthma: Italian pilot observational retrospective study GERDAS

[Marco Umberto Scaramozzino](#)<sup>1</sup>, [Maurizia Festa](#)<sup>2</sup>, [Guido Levi](#)<sup>3</sup>, [Ubaldo Romeo Plastina](#)<sup>4</sup>, [Giovanni Sapone](#)<sup>5</sup>

Affiliations expand

- PMID: 37325973
  
- DOI: [10.4081/monaldi.2023.2640](https://doi.org/10.4081/monaldi.2023.2640)

## Abstract

Reflux asthma is an entity characterised by typical symptoms and in some cases is 'silent' and is more dangerous when associated with obesity and sleep apnoea syndrome. Its prevalence in the general population is high, as demonstrated by numerous studies listed below, and it is particularly a problem in the paediatric population; where, despite treatment by medical specialists, asthma symptoms are poorly controlled with a high risk of acute exacerbations. The aim of this clinical study is to show how the addition of a particular type of alginate (Deflux plus sachets) containing hyaluronic acid and melatonin

at low doses administered over a prolonged period of six months, causes a reduction in vagal reflex stimulation of the oesophagus and pulmonary microaspiration reflexes by regulating lower oesophageal sphincter (LES) motility in asthmatic patients; improving the ACT score (asthma control test score). In the reported statistical analysis, ROC curves were performed for sensitivity and specificity for the analysed parameters, including the ACT score with statistically significant data  $p < 0.0001$ . We conclude that the combination of conventional therapy for reflux asthma associated with alginates may improve the risk of acute asthma exacerbation and dynamic lung volumes.

#### FULL TEXT LINKS



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Ann Otol Rhinol Laryngol

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. 2023 Jun 15;34894231176334.

doi: 10.1177/00034894231176334. Online ahead of print.

## Effect of Dupilumab on Type 2 Biomarkers in Chronic Rhinosinusitis With Nasal Polyps: SINUS-52 Study Results

Claus Bachert<sup>1,2,3</sup>, Tanya M Laidlaw<sup>4</sup>, Seong H Cho<sup>5</sup>, Joaquim Mullo<sup>6</sup>, Brian N Swanson<sup>7,8</sup>, Souad Naimi<sup>9</sup>, Marion Classe<sup>10,11</sup>, Sivan Harel<sup>12</sup>, Alexandre Jagerschmidt<sup>13</sup>, Elizabeth Laws<sup>14</sup>, Marcella Ruddy<sup>12</sup>, Amy Praestgaard<sup>15</sup>, Nikhil Amin<sup>12</sup>, Leda P Mannent<sup>13</sup>

Affiliations expand

- PMID: 37322842
- DOI: [10.1177/00034894231176334](https://doi.org/10.1177/00034894231176334)

# Abstract

**Objectives:** Chronic rhinosinusitis with nasal polyps (CRSwNP), asthma, and non-steroidal anti-inflammatory drug-exacerbated respiratory disease (NSAID-ERD) are frequent coexisting conditions and share type 2 inflammatory pathophysiology, with interleukin (IL)-4 and IL-13 as key cytokines. Dupilumab is a monoclonal antibody that blocks the shared receptor for IL-4 and IL-13. The objective of this analysis was to evaluate dupilumab's effect on type 2 inflammation biomarkers in patients with CRSwNP with/without coexisting asthma or NSAID-ERD from the SINUS-52 ([NCT02898454](#)) study.

**Methods:** Patients received treatment with dupilumab or placebo for 52 weeks. Blood and urinary biomarkers were evaluated through 52 weeks, and nasal secretions and mucosa brushings through 24 weeks.

**Results:** Of 447 patients, 60% had coexisting asthma and 27% had coexisting NSAID-ERD. At baseline, blood eotaxin-3, eosinophils, and periostin, nasal secretion eotaxin-3, and urinary leukotriene E<sub>4</sub> were significantly higher in patients with coexisting NSAID-ERD than without. Dupilumab reduced eotaxin-3, thymus and activation-regulated chemokine, periostin, and total immunoglobulin E in blood, eotaxin-3, periostin, IL-5, and eosinophil cationic protein in nasal secretions, and leukotriene E<sub>4</sub> in urine. Reductions were generally similar or greater in the subgroups with asthma and NSAID-ERD than without. Dupilumab also reduced MUC5AC and mast cell counts in nasal mucosa brushings.

**Conclusion:** Dupilumab reduced local and systemic type 2 inflammatory biomarkers in patients with CRSwNP, including mast cells in nasal mucosa and cysteinyl leukotrienes in urine. These findings provide insight into the processes driving CRSwNP and the mechanisms of dupilumab's therapeutic effects.

**Clinical trial registry name:** SINUS-52  
<https://www.clinicaltrials.gov/ct2/show/NCT02898454>.

**Clinicaltrials.gov identifier:** [NCT02898454](#).

**Keywords:** CRSwNP; NSAID-ERD; asthma; biomarkers; comorbidities; dupilumab; type 2 inflammation.

## SUPPLEMENTARY INFO

Associated dataexpand

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Clin Exp Pediatr

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. 2023 Jun 14.

doi: 10.3345/cep.2023.00290. Online ahead of print.

## Association between dyslipidemia and asthma in children: A systematic review and multicenter cohort study using a common data model

Ji Eun Lim<sup>1</sup>, Hye Min Kim<sup>1</sup>, Ju Hee Kim<sup>1</sup>, Hey Sung Baek<sup>1</sup>, Man Yong Han<sup>2</sup>

Affiliations expand

- PMID: 37321588
- DOI: [10.3345/cep.2023.00290](https://doi.org/10.3345/cep.2023.00290)

**Free article**

### Abstract

**Background:** The association between dyslipidemia and asthma in children remains unclear. This study investigated the association between dyslipidemia and cholesterol in children.

**Methods:** A systematic literature review was performed to identify studies investigating the association between dyslipidemia and asthma in children from PubMed database which was searched for articles published between January 2000 and March 2022. Data of cohort study using electronic health records (EHR) from five hospitals converted to the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) were also used to identify the association between total cholesterol (TC) and asthma in children. We conducted a cohort study using Cox proportional hazard model to examine the hazard

ratio (HR) of asthma after propensity score matching (PSM) and then performed an aggregate meta-analysis of the HR.

**Results:** In the systematic review, we reviewed eleven studies reporting an association between dyslipidemia and asthma in children. Most of these studies were cross-sectional, and the results were inconsistent. In an OMOP-CDM multi-center analysis, the high TC ( $> 170$  mg/dL) group as a target group included 29,038 children, and the normal TC ( $\leq 170$  mg/dL) group as a comparator group included 88,823 children in all hospital datasets. A significant association was found between children with high TC under 15 years of age and later asthma development (pooled HR, 1.30; 95% confidence interval, 1.12-1.52) using a meta-analysis of a multi-center cohort.

**Conclusion:** Elevated TC levels in children had potentially associated with asthma development.

**Keywords:** childhood asthma; dyslipidemia; hypercholesterolemia.

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Health Promot J Austr

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. 2023 Jun 15.

doi: 10.1002/hpja.756. Online ahead of print.

## Asthma-The canary in the Australian coalmine: Making the links between climate change, fossil fuel and public health outcomes

[Rebecca Patrick](#)<sup>1</sup>, [Martin Hensher](#)<sup>2</sup>, [Cenk Suphioglu](#)<sup>3</sup>, [Rachel Huxley](#)<sup>4</sup>

Affiliations expand

- PMID: 37321198

- DOI: [10.1002/hpja.756](https://doi.org/10.1002/hpja.756)

No abstract available

**Keywords:** air pollution; asthma; climate change.

- [38 references](#)

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. 2023 Jun 15;18(6):e0287336.

doi: 10.1371/journal.pone.0287336. eCollection 2023.

## [Risk factors for depression in asthmatic individuals: Findings from NHANES \(2005-2018\)](#)

[Huan Yang](#)<sup>1</sup>, [Ping Lin](#)<sup>1</sup>, [Zongan Liang](#)<sup>1</sup>

Affiliations expand

- PMID: 37319249
- DOI: [10.1371/journal.pone.0287336](https://doi.org/10.1371/journal.pone.0287336)

**Free article**

## Abstract

**Background:** The risk factors for depression in asthma are still unclear. The objective of this study was to identify the risk factors associated with depression in asthmatic individuals.

**Methods:** We used data from the 2005-2018 National Health and Nutrition Examination Survey (NHANES). Univariate analysis and multivariate logistic regression analyses were used to identify risk factors for depression and calculate unadjusted and adjusted odds ratios (ORs) and 95% confidence intervals (CIs).

**Results:** A total of 5,379 asthmatic participants were included. Of these subjects, 767 individuals had depression, and 4,612 individuals had no depression. Univariate analysis and multivariate analyses suggested that asthmatic individuals with smoking (OR 1.98, 95% CI 1.19-3.29), hypertension (OR 2.73, 95% CI 1.48-5.04), and arthritis (OR 2.83, 95% CI 1.53-5.22) were more likely to have depression. Asthmatic individuals who had more than a high school education had lower depression risk than those with less than a high school education (OR 0.55, 95% CI 0.30-0.99). Increasing age was also associated with decreased depression risk (OR 0.97, 95% CI 0.95-0.99).

**Conclusions:** Depression was more likely in asthmatic individuals with smoking, hypertension, and arthritis and less likely in individuals with higher education and increasing age. These findings could improve the identification of target populations for effective interventions to improve the mental health of asthmatic individuals.

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## Conflict of interest statement

The authors have declared that no competing interests exist.

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[Review](#)

Expert Rev Respir Med

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- 2023 Jun 15.  
doi: 10.1080/17476348.2023.2226392. Online ahead of print.

# Defining response to therapy with biologics in severe asthma: From global evaluation to super response and remission

[Andriana I Papaioannou](#)<sup>1</sup>, [Evangelia Fouka](#)<sup>2,3</sup>, [Konstantinos Bartziokas](#)<sup>4</sup>, [Maria Kallieri](#)<sup>5</sup>, [Angelos Vontetsianos](#)<sup>6</sup>, [Konstantinos Porpodis](#)<sup>2</sup>, [Nikoletta Rovina](#)<sup>6</sup>, [Stelios Loukides](#)<sup>7</sup>, [Petros Bakakos](#)<sup>6</sup>

Affiliations expand

- PMID: 37318035
- DOI: [10.1080/17476348.2023.2226392](https://doi.org/10.1080/17476348.2023.2226392)

## Abstract

**Introduction:** In recent years, monoclonal antibodies targeting Type-2 inflammatory pathways have been developed for severe asthma treatment. However, even when patients are carefully selected, response to treatment varies.

**Areas covered:** Different studies have evaluated response to therapy with biologics as exacerbation reduction, symptom improvement, pulmonary function increase, improvement in QoL, or decrease of oral corticosteroids, showing that all patients do not respond to all disease aspects and leading to an extensive debate regarding the definition of response.

**Expert opinion:** Assessing response to therapy is of great importance, but since there is no uniform definition of treatment response, the recognition of patients who really benefit from these therapies remains an unmet need. In the same context, identifying non-responding patients in which biologic therapy should be switched or substituted by alternative treatment options is of paramount importance. In this review, we present the road trip of the definition of therapeutic response to biologics in severe asthmatics by presenting the current relevant medical literature. We also present the suggested predictors of response, with an emphasis on the so-called super-responders. Finally, we

discuss the recent insights regarding asthma remission as a feasible treatment goal and provide a simple algorithm for the evaluation of response.

**Keywords:** Asthma; Benralizumab; Biologics; Mepolizumab; Omalizumab.

#### SUPPLEMENTARY INFO

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J Allergy Clin Immunol

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. 2023 Jun 12:S0091-6749(23)00751-0.

doi: 10.1016/j.jaci.2023.05.023. Online ahead of print.

## Blood transcriptomic signature in type-2 biomarker low severe asthma and asthma control

Xue Zeng<sup>1</sup>, Jing Qing<sup>1</sup>, Chi-Ming Li<sup>1</sup>, Jiamiao Lu<sup>1</sup>, Tracy Yamawaki<sup>1</sup>, Yi-Hsiang Hsu<sup>2</sup>, Bryan Vander Lugt<sup>1</sup>, Hailing Hsu<sup>3</sup>, John Busby<sup>4</sup>, P J McDowell<sup>4</sup>, David J Jackson<sup>5</sup>, Ratko Djukanovic<sup>6</sup>, John G Matthews<sup>7</sup>, Joseph R Arron<sup>7</sup>, Peter Bradding<sup>8</sup>, Christopher E Brightling<sup>8</sup>, Rekha Chaudhuri<sup>9</sup>, David F Choy<sup>10</sup>, D Cowan<sup>11</sup>, S J Fowler<sup>12</sup>, Timothy C Hardman<sup>13</sup>, Tim Harrison<sup>14</sup>, Peter Howarth<sup>6</sup>, James Lordan<sup>15</sup>, A H Mansur<sup>16</sup>, Andrew Menzies-Gow<sup>17</sup>, Ian D Pavord<sup>18</sup>, Samantha Walker<sup>19</sup>, Ashley Woodcock<sup>12</sup>, Liam G Heaney<sup>20</sup>; investigators for the UK MRC Refractory Asthma Stratification Program (RASP-UK)\*

Affiliations expand

- PMID: 37315813

- DOI: [10.1016/j.jaci.2023.05.023](https://doi.org/10.1016/j.jaci.2023.05.023)

## Abstract

**Background:** Patients with Type-2 (T2) cytokine-low severe asthma often have persistent symptoms despite suppression of T2-inflammation with corticosteroids (CS).

**Objectives:** To analyze whole blood transcriptome from 738 samples in T2-biomarker high/low severe asthma patients to relate transcriptomic signatures to T2-biomarkers and asthma symptom scores.

**Methods:** Bulk RNAseq data were generated for blood samples (baseline, Week24, Week48) from 301 participants recruited to a randomized clinical trial of CS optimization in severe asthma. Unsupervised clustering, differential gene expression analysis, and pathway analysis were performed. Patients were grouped by T2-biomarker status and symptoms. Associations between clinical characteristics and differentially expressed genes (DEGs) associated with biomarker and symptom levels were investigated.

**Results:** Unsupervised clustering identified two clusters; Cluster 2 patients were blood eosinophil low/symptom high and more likely to be receiving oral CS (OCS). Differential gene expression analysis of these clusters, with and without stratification for OCS, identified 2,960 and 4,162 DEGs respectively. 627/2,960 genes remained after adjusting for OCS by subtracting OCS signature genes. Pathway analysis identified dolichyl-diphosphooligosaccharide biosynthesis and assembly of RNA polymerase I complex as significantly enriched pathways. No stable DEGs were associated with high symptoms in T2-biomarker low patients, but numerous associated with elevated T2-biomarkers, including 15 that were up-regulated at all time-points irrespective of symptom level.

**Conclusions:** OCS have a considerable effect on whole blood transcriptome. DEG analysis demonstrates a clear T2-biomarker transcriptomic signature, but no signature was found in association with T2-biomarker low patients, including those with a high symptom burden.

**Keywords:** Severe asthma; T2-high; T2-low; biomarker; oral corticosteroids; whole blood transcriptome.

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## Editorial

J Allergy Clin Immunol

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. 2023 Jun 12;S0091-6749(23)00756-X.

doi: 10.1016/j.jaci.2023.06.002. Online ahead of print.

# Dopamine primes TH2 cells in the lungs

[Derek J Bangs<sup>1</sup>](#), [Marion Pepper<sup>2</sup>](#)

Affiliations expand

- PMID: 37315810
- DOI: [10.1016/j.jaci.2023.06.002](https://doi.org/10.1016/j.jaci.2023.06.002)

No abstract available

**Keywords:** Asthma; CD25; CD4+ T Cells; Dopamine; House Dust Mite; IL-2; Lungs; TH2; TRM; Tissue Resident Memory.

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Publication typesexpand

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J Asthma

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. 2023 Jun 14;1-14.

doi: 10.1080/02770903.2023.2225605. Online ahead of print.

# Investigation of miRNAs that are effective in the pathogenesis of asthma

Ender Coskunpinar<sup>1</sup>, Betul Akcesme<sup>1</sup>, Sevgi Kalkanli Tas<sup>2</sup>, Aysun Aynaci<sup>3</sup>

Affiliations expand

- PMID: 37314187
- DOI: [10.1080/02770903.2023.2225605](https://doi.org/10.1080/02770903.2023.2225605)

## Abstract

**Objectives:** Asthma is a complex disease characterized by inflammation of the airways, involving epigenetic changes, in which genetic and environmental factors act together. MicroRNAs as candidate biomarkers stand out as target molecules in the diagnosis and treatment of immunological and inflammatory diseases. Our aim of this study is to identify miRNAs that are thought to be effective in the pathogenesis of allergic asthma and to reveal candidate biomarkers associated with the disease.

**Methods:** Fifty patients, aged between 18-80 years, who were diagnosed with allergic asthma and 18 healthy volunteers were included in the study. After the collection two ml of total blood from volunteers, RNA isolation and cDNA synthesis were performed. For miRNA profile screening, expression analysis was performed by real-time PCR method using miScript miRNA PCR Array. GeneGlobe Data Analysis Center was used to evaluate dysregulated miRNAs.

**Results:** In the allergic asthma group, 9 (18%) of the patients were male and 41 (82%) of them were female. In the control group, 7 (38.89%) were male and 11 (61.1%) were female (P:0.073). As a result of the research, the expression levels of miR-142-5p, miR-376c-3p and miR-22-3p were down-regulated, while miR-27b-3p, miR-26b-5p, miR-15b-5p and miR-29c-3p detected as up-regulated.

**Discussion:** The results of our study suggest that miR142-5p, miR376c-3p and miR22-3p promote Ubiquitin-mediated proteolysis by inhibiting TGF-β expression through a mechanism involving the p53 signaling pathway. The deregulated miRNAs may be used as a diagnostic and prognostic biomarker in asthma.

**Keywords:** Asthma; PCR array; biomarker; miRNA.

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Expert Rev Respir Med

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. 2023 Jun 14.

doi: [10.1080/17476348.2023.2223986](https://doi.org/10.1080/17476348.2023.2223986). Online ahead of print.

# Criteria to evaluate efficacy of biologics in asthma: A Global Asthma Association survey

[Angelica Tiotiu](#)<sup>1,2</sup>, [Andras Bikov](#)<sup>3,4</sup>, [Francisco-Javier Gonzalez-Barcala](#)<sup>5,6,7</sup>, [Sylvia Novakova](#)<sup>8</sup>, [Plamena Novakova](#)<sup>9</sup>, [Chong-Neto Heriberto](#)<sup>10</sup>, [Santus Pierachille](#)<sup>11,12</sup>, [Ansotegui Ignacio](#)<sup>13</sup>, [Ivancevich Juan Carlos](#)<sup>14</sup>, [Kowal Krzysztof](#)<sup>15</sup>, [Mihaicuta Stefan](#)<sup>16,17</sup>, [Nedeva Denislava](#)<sup>18</sup>, [Canonica Giorgio Walter](#)<sup>19,20</sup>, [Bernstein Jonathan](#)<sup>21</sup>, [Boulet Louis Philippe](#)<sup>22</sup>, [Braido Fulvio](#)<sup>23,24</sup>

Affiliations expand

- PMID: 37313643
- DOI: [10.1080/17476348.2023.2223986](https://doi.org/10.1080/17476348.2023.2223986)

## Abstract

**Background:** Currently there are no universally accepted criteria to measure the response to biologics available as treatment for severe asthma. This survey aims to establish consensus criteria to use for the evaluation of response to biologics after four months of treatment.

**Method:** Using Delphi methodology, a questionnaire including ten items was validated by 13 international experts in asthma. The electronic survey circulated within the Interasma Scientific Network platform. For each item, five answers were proposed graduated from 'no importance' to 'very high importance' and by a score (A = 2 points; B = 4 points; C = 6 points; D = 8 points; E = 10 points). The final criteria were selected if the median score for

the item was  $\geq 7$  and  $> 60\%$  of responses according 'high importance' and 'very high importance'. All selected criteria were validated by the experts.

**Results:** Four criteria were identified: to reduce daily systemic corticosteroids dose by  $\geq 50\%$ ; to decrease the number of asthma exacerbations requiring systemic corticosteroids by  $\geq 50\%$ ; to have no/minimal side-effects and to obtain asthma control according validated questionnaires. The consensual decision was that  $\geq 3$  criteria define a good response to biologics.

**Conclusions:** Specific criteria were defined by an international panel of experts and could be used as tool in clinical practice.

**Keywords:** asthma; biologics; criteria; efficacy; survey.

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ACR Open Rheumatol

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. 2023 Jun 13.

doi: 10.1002/acr2.11571. Online ahead of print.

## Clinical Benefit of Mepolizumab in Eosinophilic Granulomatosis With Polyangiitis for Patients With and Without a Vasculitic Phenotype

Benjamin Terrier<sup>1</sup>, David R W Jayne<sup>2</sup>, Bernhard Hellmich<sup>3</sup>, Jane H Bentley<sup>4</sup>, Jonathan Steinfeld<sup>5</sup>, Steven W Yancey<sup>6</sup>, Namhee Kwon<sup>7</sup>, Praveen Akuthota<sup>8</sup>, Paneez Khoury<sup>9</sup>, Lee Baylis<sup>10</sup>, Michael E Wechsler<sup>11</sup>, EGPA mepolizumab study team

Affiliations expand

- PMID: 37312233

- DOI: [10.1002/acr2.11571](https://doi.org/10.1002/acr2.11571)

## Free article

# Abstract

**Objective:** To evaluate mepolizumab's efficacy in eosinophilic granulomatosis with polyangiitis (EGPA) with and without a vasculitic phenotype.

**Methods:** The MIRRA study ([NCT02020889](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9500000/)/GSK ID: 115921) included adults with relapsing/refractory EGPA and 4 or more weeks of stable oral glucocorticoids (OG). Patients received mepolizumab (300 mg subcutaneously every 4 weeks) or placebo, plus standard of care for 52 weeks. This post hoc analysis assessed EGPA vasculitic phenotype using antineutrophil cytoplasmic antibody (ANCA) history, baseline Birmingham Vasculitis Activity Score (BVAS), and Vasculitis Damage Index (VDI) score. Coprimary endpoints included accrued remission over 52 weeks and proportion in remission at Week 36 and Week 48. Remission was defined as a BVAS equal to 0 and an OG dose of 4 or more mg/day of a prednisone equivalent. Types of relapses (vasculitis, asthma, and sino-nasal) and EGPA vasculitic characteristics (by study remission status) were also assessed.

**Results:** A total of 136 patients were included (n = 68, mepolizumab and placebo). Irrespective of history of ANCA positivity status, baseline BVAS, or baseline VDI, the accrued remission duration and the proportion of patients in remission at Weeks 36 and 48 were greater with mepolizumab compared with placebo. With mepolizumab, remission at both Week 36 and Week 48 was achieved by 54% of patients with and 27% of patients without a history of ANCA positivity compared with 0% and 4%, respectively (placebo); 45% of patients with a BVAS of 0 and 22% of patients with BVAS of greater than 0 compared with 5% and 2%, respectively (placebo); and 29% of patients with a VDI score of less than 5 and 37% of patients with a VDI score of 5 or more compared with 6% and 0%, respectively (placebo). Mepolizumab reduced all types of relapses as compared with placebo. Baseline vasculitic characteristics (neuropathy, glomerulonephritis, alveolar hemorrhage, palpable purpura, and ANCA positivity) were generally similar among patients with and without remission.

**Conclusion:** Mepolizumab is associated with clinical benefits for patients with and without a vasculitic EGPA phenotype.

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## SUPPLEMENTARY INFO

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Am J Respir Crit Care Med

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. 2023 Jun 13.

doi: 10.1164/rccm.202303-0371LE. Online ahead of print.

# Long-Term PM<sub>2.5</sub> Exposure and Lung Function Change in Children with Asthma Receiving Inhaled Corticosteroids

Franziska J Rosser<sup>1,2</sup>, Yueh-Ying Han<sup>1</sup>, Erick Forno<sup>1,3</sup>, Theresa W Guilbert<sup>4</sup>, Leonard B Bacharier<sup>5</sup>, Wanda Phipatanakul<sup>6</sup>, Gillian C Goobie<sup>7,8</sup>, S Mehdi Nouraie<sup>9</sup>, Mary Martinez<sup>10</sup>, Juan C Celedón<sup>1,3</sup>

Affiliations expand

- PMID: 37311241
- DOI: [10.1164/rccm.202303-0371LE](https://doi.org/10.1164/rccm.202303-0371LE)

No abstract available

**Keywords:** childhood asthma; lung function; particulate matter.

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Am J Respir Crit Care Med

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. 2023 Jun 13.

doi: 10.1164/rccm.202305-0811ED. Online ahead of print.

## Finding the Right Biological: Eosinophil Subset Differences in Asthma and COPD

Christine M Freeman<sup>1</sup>, Jeffrey L Curtis<sup>2</sup>, Annette T Hastie<sup>3</sup>

Affiliations expand

- PMID: 37311240
- DOI: [10.1164/rccm.202305-0811ED](https://doi.org/10.1164/rccm.202305-0811ED)

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J Asthma

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. 2023 Jun 13;1-12.

doi: 10.1080/02770903.2023.2225607. Online ahead of print.

# Childhood asthma in the Bronx, NY; the impact of pollutants on length of hospital stay

Jennifer Hardell<sup>1</sup>, Ellen J Silver<sup>1</sup>, Ilias Kavouras<sup>2</sup>, Diana S Lee<sup>3</sup>, Elissa Gross<sup>4</sup>

Affiliations expand

- PMID: 37310769
- DOI: [10.1080/02770903.2023.2225607](https://doi.org/10.1080/02770903.2023.2225607)

## Abstract

**Objective:** The length of hospital stay (LOS) is a proxy of asthma exacerbation severity and healthcare cost. The study aims to estimate the effect of ambient air pollution on pediatric asthma LOS in the Bronx, NY.

**Methods:** A total of 1,920 children admitted to the hospital in Bronx, NY due to asthma during 2017-2019 period were included in the study. Demographic and clinical parameters were obtained from medical records. Daily ozone ( $O_3$ ) and fine particulate matter ( $PM_{2.5}$ ) measurements were obtained from local air quality networks. Poisson regression adjusting for gender, age, weight status, respiratory infections including influenza, and ambient temperature was applied to determine whether there was an association of air pollution with length of hospital stay.

**Results:** The mean LOS varied by age, sex, weight status, influenza vaccination status, respiratory viral panel (RVP) results, asthma controller use, and asthma classification. After controlling for these factors in Poisson regression, the mean LOS increased up to 10.62% (95%CI: 0.78-21.41;  $p = 0.03$ ) for an increase of 10  $\mu g/m^3$  of  $PM_{2.5}$  exposure on admission day, and 3.90% (95%CI = 0.06-7.88;  $p = 0.05$ ) for an increase of 10 ppbv of  $O_3$  concentration during the previous day.

**Conclusion:** Ambient particulate and ozone pollution is associated with lengthier hospital stays for pediatric asthma, potentially indicating more severe asthma exacerbations.

**Keywords:** Bronx; ambient air pollution; environmental justice; fine particles; hospitalization; ozone; pediatric asthma.

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Med J Aust

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. 2023 Jun 12.

doi: 10.5694/mja2.52000. Online ahead of print.

## Sleepwalking towards more harm from asthma

[Christine R Jenkins](#)<sup>1,2</sup>, [Philip G Bardin](#)<sup>3</sup>, [John Blakey](#)<sup>4,5</sup>, [Kerry L Hancock](#)<sup>6</sup>, [Peter Gibson](#)<sup>7</sup>, [Vanessa M McDonald](#)<sup>8</sup>

Affiliations expand

- PMID: 37308167
- DOI: [10.5694/mja2.52000](https://doi.org/10.5694/mja2.52000)

No abstract available

**Keywords:** Asthma; Chronic disease; Community care; Primary care.

- [41 references](#)

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PLoS One

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- . 2023 Jun 12;18(6):e0287040.  
doi: 10.1371/journal.pone.0287040. eCollection 2023.

# Factors associated with occupational asthma among food industry workers: A systematic review

[Ahmed Syahmi Syafiq Md Zamri](#)<sup>1</sup>, [Muhammad Zulhilmie Saruddin](#)<sup>1</sup>, [Amin Harun](#)<sup>1</sup>, [Siti Fatimah Abd Aziz](#)<sup>1</sup>, [Abi Khairul Aizad Za'bah](#)<sup>1</sup>, [Rahmat Dapari](#)<sup>1</sup>, [Mohd Rohaizat Hassan](#)<sup>2</sup>, [Nazri Che Dom](#)<sup>3</sup>, [Syed Sharizman Syed Abdul Rahim](#)<sup>4</sup>

Affiliations expand

- PMID: 37307252
- PMCID: [PMC10259786](#)
- DOI: [10.1371/journal.pone.0287040](https://doi.org/10.1371/journal.pone.0287040)

**Free PMC article**

## Abstract

**Introduction:** Occupational asthma (OA) is a type of Work-Related Asthma characterised by variable airflow limitation and/or inflammation due to causes and conditions attributable to a particular occupational environment, and not to stimuli encountered outside the workplace. There is an increasing need to extend the depth of knowledge of OA to better manage this condition, especially among food industry workers who are affected by it.

**Objective:** This systematic review aimed to determine the factors associated with occupational asthma among food industry workers by electronically collecting articles from two databases (Medline and Scopus).

**Methods:** This systematic review was prepared in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta Analyses) updated guideline. Two independent reviewers screened the titles and abstracts of the collected data, which were then stored in Endnote20 based on the inclusion and exclusion criteria. The included

articles have been critically appraised to assess the quality of the studies using the Mixed Methods Appraisal Tool (MMAT).

**Result:** The search yielded 82 articles from Medline and 85 from SCOPUS, resulting in 167 unique hits. Only 22 articles have been included in the full-text assessment following a rigorous selection screening. Of the 22 articles identified, five were included in the final review. Several factors were found to have contributed to occupational asthma among food industry workers. They were classified into two categories: (1) work environment-related factors; and (2) individual factors.

**Conclusion:** Several work environment and individual-related factors were found to be associated with OA among food industry workers. A better understanding of the development of the disease and its potential risk factors is needed because it can affect worker's quality of life. Pre-employment and periodic medical surveillance should be conducted to assess and detect any possible risk of developing occupational asthma among workers.

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## Conflict of interest statement

The authors have declared that no competing interests exist.

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

### SUPPLEMENTARY INFO

Publication types, MeSH terms, Grant supportexpand

### FULL TEXT LINKS



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Drugs

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- 2023 Jun 12.  
doi: 10.1007/s40265-023-01897-2. Online ahead of print.

# Might It Be Appropriate to Anticipate the Use of Long-Acting Muscarinic Antagonists in Asthma?

Mario Cazzola<sup>1</sup>, Paola Rogliani<sup>2</sup>, Maria Gabriella Matera<sup>3</sup>

Affiliations expand

- PMID: 37303017
- DOI: [10.1007/s40265-023-01897-2](https://doi.org/10.1007/s40265-023-01897-2)

## Abstract

A growing number of clinical trials are documenting that adding a long-acting muscarinic antagonist (LAMA) to established asthma treatment with an inhaled corticosteroid (ICS) and a long-acting  $\beta_2$ -agonist (LABA) is a treatment option that improves the health of patients with uncontrolled severe asthma even when therapy is optimized. These favorable results are the reason why the leading guidelines recommend triple therapy with ICS + LABA + LAMA in patients with asthma uncontrolled by medium- to high-dose ICS-LABA. However, we suggest adding LAMAs to ICS-LABAs at an earlier clinical stage. Such action could positively influence airflow limitation, exacerbations, and eosinophilic inflammation, conditions that are associated with acetylcholine (ACh) activity. It could also interrupt the vicious cycle related to a continuous release of ACh leading to the progressive expansion of neuronal plasticity resulting in small airway dysfunction. The utility of an earlier use of triple therapy in asthma should, in any case, be confirmed by statistically powered trials.

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JAMA

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. 2023 Jun 13;329(22):1981-1982.  
doi: 10.1001/jama.2023.5588.

## Asthma in Pregnancy

[Jenny Huang](#)<sup>1</sup>, [Jennifer Namazy](#)<sup>1</sup>

Affiliations expand

- PMID: 37234011
- DOI: [10.1001/jama.2023.5588](https://doi.org/10.1001/jama.2023.5588)

*No abstract available*

## Plain language summary

This JAMA Insights in the Women's Health series examines the management of asthma during pregnancy, including diagnosis, treatment, and the handling of exacerbations.

SUPPLEMENTARY INFO

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):209-210.  
doi: 10.18176/jaci.0898. Epub 2023 Feb 23.

# Mepolizumab for Treatment of Severe Eosinophilic Asthma: A 5-Year Real-World Experience

D Loli-Ausejo<sup>1,2</sup>, G Perdomo<sup>3</sup>, B Mascaró<sup>1,2</sup>, P Martínez-Olondris<sup>2,4</sup>, M C Sánchez-Fernández<sup>1</sup>, J MULLOL<sup>2,5,6,7</sup>, A Valero<sup>1,2,6,7</sup>, E Arismendi<sup>2,4,6,7</sup>, I Bobolea<sup>1,2,6,7</sup>  
Affiliations expand

- PMID: 36820628
- DOI: [10.18176/jaci.0898](https://doi.org/10.18176/jaci.0898)

*No abstract available*

**Keywords:** Asthma; Mepolizumab; Monoclonal antibodies; Severe eosinophilic asthma; Treatment.

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[Review](#)

J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):168-178.  
doi: 10.18176/jaci.0856. Epub 2022 Sep 5.

# Severe Asthma and Biologics: Managing Complex Patients

A Matucci<sup>1</sup>, C Micheletto<sup>2</sup>, A Vultaggio<sup>1,3</sup>

Affiliations expand

- PMID: 36059229
- DOI: [10.18176/jaci.0856](https://doi.org/10.18176/jaci.0856)

## Abstract

Bronchial asthma is a chronic inflammatory disease of the respiratory tract that varies in terms of clinical presentations (phenotypes) and distinct underlying pathophysiological mechanisms (endotypes). The definition of phenotype/endotype is crucial, given the availability of novel biologic agents for patients who do not respond to conventional therapies. Although patients with type 2 severe asthma benefit significantly from treatment with biologics, nonresponders have been identified. Comorbidities worsen the symptoms of asthma and complicate management of the disease. The assessment and treatment of comorbidities is a crucial step, and appropriate management may improve asthma symptoms and morbidity. Among comorbidities, those with a marked negative impact on control despite appropriate treatment include chronic rhinosinusitis with nasal polyps, obesity, bronchiectasis, and immune deficiency. Although asthma is frequently characterized by increased blood eosinophils that release mediators and cytokines and are involved in inflammation of the airway wall, in patients with very high blood eosinophil levels, we must differentiate between isolated severe eosinophilic asthma and asthma in eosinophilic granulomatosis with polyangiitis. In addition, hypereosinophilia may result from specific biological treatment, as in the case of dupilumab. We outline the clinical features of patients with severe asthma whose disease is complex to manage.

**Keywords:** Biologics; Dupilumab-induced hypereosinophilia; Severe asthma.

## SUPPLEMENTARY INFO

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):230-232.

doi: 10.18176/jiaci.0840. Epub 2022 Jul 7.

## [Effect of Dupilumab in a Patient With Severe Asthma Complicated With Recurrent Anaphylaxis: A Case Report](#)

[T Otani](#)<sup>1</sup>, [H Iwamoto](#)<sup>1</sup>, [Y Horimasu](#)<sup>1</sup>, [K Yamaguchi](#)<sup>1</sup>, [S Sakamoto](#)<sup>1</sup>, [T Masuda](#)<sup>1</sup>, [S Miyamoto](#)<sup>1</sup>, [T Nakashima](#)<sup>1</sup>, [K Fujitaka](#)<sup>1</sup>, [H Hamada](#)<sup>2</sup>, [N Hattori](#)<sup>1</sup>

Affiliations expand

- PMID: 35797134
- DOI: [10.18176/jiaci.0840](https://doi.org/10.18176/jiaci.0840)

No abstract available

**Keywords:** Dupilumab; Recurrent anaphylaxis; Severe asthma.

- [Cited by 1 article](#)

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):223-225.  
doi: 10.18176/jaci.0841. Epub 2022 Jul 7.

# Validation of the Algorithm for the Monitoring and Control of Asthma Through Telemedicine: The COMETA Project

C Almonacid Sánchez<sup>1</sup>, M Blanco-Aparicio<sup>2</sup>, J Domínguez-Ortega<sup>3</sup>, J Giner Donaire<sup>4</sup>, J Molina Paris<sup>5</sup>, N Sánchez Marcos<sup>6</sup>, V Plaza<sup>4</sup>

Affiliations expand

- PMID: 35797114
- DOI: [10.18176/jaci.0841](https://doi.org/10.18176/jaci.0841)

No abstract available

**Keywords:** Algorithms; Asthma; Consensus; Telemedicine.

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):220-222.  
doi: 10.18176/jaci.0839. Epub 2022 Jul 7.

# First-Line Versus Second-Line Use of Reslizumab in Severe Uncontrolled Asthma

L A Pérez de Llano<sup>1</sup>, B G Cosío<sup>2 3 4</sup>, I Lobato Astiárraga<sup>5</sup>, G Soto Campos<sup>6</sup>, M A Tejedor Alonso<sup>7</sup>, N Marina Malanda<sup>8</sup>, A Padilla Galo<sup>9</sup>, I Urrutia Landa<sup>10</sup>, F J Michel de la Rosa<sup>11</sup>, I García-Moguel<sup>12\*</sup>; Reslizumab Real-Life Spanish group

Affiliations expand

- PMID: 35797112
- DOI: [10.18176/jaci.0839](https://doi.org/10.18176/jaci.0839)

No abstract available

**Keywords:** Asthma control; Eosinophilic asthma; Monoclonal antibodies; Reslizumab.

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):179-189.

doi: 10.18176/jaci.0780. Epub 2022 Jan 14.

# Transition of Adolescents With Severe Asthma From Pediatric to Adult Care in Spain: The STAR Consensus

J Valverde-Molina<sup>1</sup>, M Fernández-Nieto<sup>2,3</sup>, J Torres-Borrego<sup>4</sup>, J Lozano Blasco<sup>5</sup>, I de Mir-Messa<sup>6,7</sup>, M Blanco-Aparicio<sup>8,9</sup>, A Nieto<sup>10</sup>, J Figerola Mulet<sup>11,12</sup>, A L Moure<sup>13</sup>, M G Sánchez-Herrero<sup>13</sup>, S Sánchez-García<sup>14</sup>

Affiliations expand

- PMID: 35029151
- DOI: [10.18176/jaci.0780](https://doi.org/10.18176/jaci.0780)

## Abstract

**Objectives:** To assess the degree of consensus among a multidisciplinary expert panel on the transition of adolescents with severe asthma from pediatric to adult care.

**Methods:** A 61-item survey was developed based on guidelines for other chronic diseases, covering transition planning, preparation, effective transfer, and follow-up. A 2-round Delphi process assessed the degree of consensus among 98 experts (49 pediatricians, 24 allergists, and 25 pulmonologists). Consensus was established with ≥70% agreement.

**Results:** Consensus was reached for 42 items (70%). Panelists were unable to agree on an age range for initiation of transition. The main goal during the transition identified by the experts is for adolescents to gain autonomy in managing severe asthma and prescribed treatments. The panelists agreed on the importance of developing an individualized plan, promoting patient autonomy, and identifying factors associated with the home environment. They agreed that the adult health care team should have expertise in severe asthma, biologics, and management of adolescent patients. Pediatric and adult health care teams should share clinical information, agree on the criteria for maintaining biological therapy, and have an on-site joint visit with the patient before the effective transfer. Adult health care professionals should closely follow the patient after the effective transfer to ensure correct inhaler technique, adherence, and attendance at health care appointments.

**Conclusion:** This consensus document provides the first roadmap for Spanish pediatric and adult teams to ensure that key aspects of the transition process in severe asthma are covered. The implementation of these recommendations will improve the quality of care offered to the patient.

**Keywords:** Adolescent; Biologics; Consensus; Delphi process; Pediatric patient; Recommendations; Severe asthma; Transition process.

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):200-208.

doi: 10.18176/jiaci.0768. Epub 2021 Nov 26.

# Atopic Manifestations Are Underestimated Clinical Features in Various Primary Immunodeficiency Disease Phenotypes

J de Wit<sup>1</sup>, V Ash Dalm<sup>2,3</sup>, J Ee Totté<sup>1</sup>, L Sj Kamphuis<sup>4</sup>, C L Vermont<sup>5</sup>, F Y van Osnabrugge<sup>1</sup>, P M van Hagen<sup>2,3</sup>, S Gma Pasman<sup>1,6\*</sup>, Academic Centers for Allergic Diseases and the Rare Immunological Disease Centre

Affiliations expand

- PMID: 34825650
- DOI: [10.18176/jiaci.0768](https://doi.org/10.18176/jiaci.0768)

## Abstract

**Background and objectives:** Atopic manifestations are described as a clinical feature of various primary immunodeficiency disease (PID) phenotypes and are frequently reported in combined immunodeficiencies. The prevalence of atopic manifestations in other PIDs remains largely unknown. Objective: To evaluate the prevalence of atopic manifestations in PIDs other than combined immunodeficiencies and to identify in which PIDs atopic manifestations are most common with the aim of improving patient care.

**Methods:** A partner-controlled, questionnaire-based study was performed in pediatric and adult PID patients. Data from diagnostic tests to assess atopic manifestations (ie, diagnostic criteria for atopic dermatitis, spirometry, specific IgE against food and inhalant

allergens) were collected from adult patients to confirm patient-reported atopic manifestations.

**Results:** Forty-seven children and 206 adults with PIDs and 56 partner-controls completed the questionnaire. Thirty-five pediatric patients (74.5%) and 164 adult patients (79.6%) reported having experienced 1 or more atopic manifestations compared with 28 partner-controls (50.0%). In the comparison of adult patients with partner-controls, prevalence values were as follows: atopic dermatitis, 49.5% vs 27.3% ( $P=.003$ ); food allergy, 10.7% vs 1.9% ( $P=.031$ ); asthma, 55.7% vs 14.8% ( $P<.001$ ); and allergic rhinitis, 49.8% vs 21.8% ( $P<.001$ ). The frequency of current atopic manifestations reported by patients was higher than the prevalence based on diagnostic tests (atopic dermatitis, 11.2%; food allergy, 1.9%; asthma 16.4%; and allergic rhinitis, 11.5%).

**Conclusion:** Atopic manifestations are prevalent clinical features across a broad spectrum of PIDs and, in our cohort, frequently present in patients with combined immunodeficiencies and predominant antibody deficiencies. Atopic manifestations should be evaluated in patients with PIDs.

**Keywords:** Asthma; Atopic dermatitis; Food hypersensitivity; Immunologic deficiency syndromes; Seasonal allergic rhinitis.

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

1

Phytother Res

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. 2023 Jun 16.

doi: 10.1002/ptr.7904. Online ahead of print.

[Anti-inflammatory effect of dictamnine on allergic rhinitis via suppression of the LYN kinase-](#)

# mediated molecular signaling pathway during mast cell activation

Rui Liu<sup>1</sup>, Yonghui Zhang<sup>1</sup>, Yuejin Wang<sup>1</sup>, Yihan Huang<sup>1</sup>, Jiapan Gao<sup>1</sup>, Xi Tian<sup>2</sup>, Tianyou Ma<sup>3</sup>, Tao Zhang<sup>1</sup>

Affiliations expand

- PMID: 37329155
- DOI: [10.1002/ptr.7904](https://doi.org/10.1002/ptr.7904)

## Abstract

Mast cells (MCs) are important therapeutic targets for allergic diseases. High-affinity immunoglobulin E (IgE) Fc receptors (Fc $\epsilon$ RI) trigger abnormal activation of MCs. Allergic rhinitis (AR) is an IgE-mediated antigen inhalation reaction that occurs in the nasal mucosa. MC aggravation and dysfunction were observed during the early stages of AR pathogenesis. Herb-derived dictamnine exhibits anti-inflammatory effects. Here, we investigated the pharmacological effects of herb-derived dictamnine on IgE-induced activation of MCs and an ovalbumin (OVA)-induced murine AR model. The results indicated that dictamnine attenuated OVA-induced local allergic reactions and reduced body temperature in OVA-challenged mice with active systemic anaphylaxis. Additionally, dictamnine decreased the frequency of nasal rubbing and sneezing in an OVA-induced murine AR model. Moreover, dictamnine inhibited Fc $\epsilon$ RI-activated MC activation in a dose-dependent manner without causing cytotoxicity, reduced the activation of the tyrosine kinase LYN in LAD2 cells, and downregulated the phosphorylation of PLCy1, IP3R, PKC, Erk1/2, and Akt, which are downstream of LYN. In conclusion, dictamnine suppressed the OVA-stimulated murine model of AR and activated IgE-induced MCs via the LYN kinase-mediated molecular signaling pathway, suggesting that dictamnine may be a promising treatment for AR.

**Keywords:** LYN kinase; allergic rhinitis; dictamnine; inflammation; mast cells.

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Grant support [expand](#)

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J Allergy Clin Immunol Pract

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. 2023 Jun 14;S2213-2198(23)00656-6.

doi: 10.1016/j.jaip.2023.06.014. Online ahead of print.

## Phenotyping Occupational Asthma Caused by Platinum Salts Compared to Other Low-molecular-weight Agents

Vera van Kampen<sup>1</sup>, Nicolas Migueres<sup>2</sup>, Virginie Doyen<sup>3</sup>, Anja Deckert<sup>1</sup>, Frédéric de Blay<sup>4</sup>, Olivier Vandenplas<sup>5</sup>, Rolf Merget<sup>1</sup>; European network for the PHenotyping of OCCcupational Asthma (E-PHOCAS)

Affiliations expand

- PMID: 37328060
- DOI: [10.1016/j.jaip.2023.06.014](https://doi.org/10.1016/j.jaip.2023.06.014)

No abstract available

**Keywords:** Fractional exhaled nitric oxide; occupational asthma; occupational rhinitis; platinum salts; specific inhalation challenge.

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3

Int J Technol Assess Health Care

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. 2023 Jun 16;39(1):e35.  
doi: 10.1017/S026646232300034X.

# Clinical effectiveness of fluticasone furoate nasal spray for perennial allergic rhinitis in children: a comprehensive review

[Paola Andrea Rivera](#)<sup>1</sup>

Affiliations expand

- PMID: 37325979
- DOI: [10.1017/S026646232300034X](https://doi.org/10.1017/S026646232300034X)

## Abstract

**Objective:** To assess the clinical effectiveness of fluticasone furoate nasal spray (FFNS) versus placebo on nasal symptoms and safety in children with perennial allergic rhinitis (AR).

**Methods:** A comprehensive review was conducted with data obtained from Medline and Embase databases up to April 2023. The population of interest was patients aged 2-12 years with perennial AR. The selection was limited to randomized controlled trials (RCTs), comparing FFNS with placebo. Outcomes of interest included the reflective total nasal symptoms scores (rTNSS) and safety. To assess the minimal clinically important difference for rTNSS, the Cohen's guideline was used. If the pooled standardized mean difference (SMD) and the lower limit of the 95 percent confidence interval (CI) exceeded the threshold of -0.20, effects were considered clinically significant.

**Results:** Three RCTs (959 pediatric patients) were selected. One study evaluated the short-term use of FFNS, another evaluated the long-term use of FFNS, and another evaluated both the short-term and long-term use of FFNS. FFNS produced a statistically significant

reduction over placebo in rTNSS (SMD -0.18; 95 percent CI -0.35 to -0.01,  $p = 0.03$ ) in long-term treatment studies, but not in short-term treatment studies. However, since the mean reduction did not reach the minimum clinically important difference (SMD -0.20), these results were considered clinically not relevant. Safety outcomes with FFNS were similar to placebo.

**Conclusions:** The currently available evidence suggests that FFNS, 110 µg once daily, compared to placebo, does not produce a meaningful clinical effect on nasal symptom in children with perennial AR.

**Keywords:** Allergic rhinitis; children; fluticasone furoate; intranasal corticosteroids.

#### FULL TEXT LINKS



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Int Forum Allergy Rhinol

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. 2023 Jun 14.

doi: 10.1002/alr.23212. Online ahead of print.

## Early increase in eosinophil count may predict long-term hypereosinophilia during dupilumab treatment: a 2 year observational study

[Andrea Rampi](#)<sup>1,2</sup>, [Umberto Tanzini](#)<sup>1,2</sup>, [Alessandro Vinciguerra](#)<sup>3</sup>, [Giulia Danè](#)<sup>1</sup>, [Luca Moroni](#)<sup>2,4</sup>, [Mona-Rita Yacoub](#)<sup>4</sup>, [Matteo Trimarchi](#)<sup>1,2,5</sup>  
Affiliations expand

- PMID: 37316962
- DOI: [10.1002/alr.23212](https://doi.org/10.1002/alr.23212)

No abstract available

**Keywords:** Chronic rhinosinusitis; Eosinophilic rhinitis and nasal polyposis; Paranasal Sinus Diseases; Therapeutics.

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Int Forum Allergy Rhinol

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. 2023 Jun 14.

doi: 10.1002/alr.23210. Online ahead of print.

## Challenges to medication adherence with intranasal corticosteroid irrigations

Jorge A Gutierrez 3rd<sup>1</sup>, Christian M Shannon<sup>1</sup>, Nikita Chapurin<sup>1</sup>, Rodney J Schlosser<sup>1</sup>, Zachary M Soler<sup>1</sup>

Affiliations expand

- PMID: 37314391
- DOI: [10.1002/alr.23210](https://doi.org/10.1002/alr.23210)

## Abstract

**Background:** The purpose of this study was to investigate real world adherence to intranasal corticosteroid irrigations using pharmacy data and assess factors associated with low adherence.

**Methods:** Patients undergoing treatment with corticosteroid irrigations for any diagnosis during a 2-year period were prospectively recruited. Subjects completed a one-time set of

questionnaires including the Barriers to Care Questionnaire (BCQ), 22-item Sino-Nasal Outcome Test (SNOT-22), and a questionnaire assessing their experience with corticosteroid irrigations. Pharmacy data was used to calculate the Medication Possession Ratio (MPR), a measure of medication adherence graded from 0 to 1.

**Results:** Seventy-one patients were enrolled. Patients diagnoses included chronic rhinosinusitis (CRS) without nasal polyps ( $n = 37$ ), CRS with nasal polyps ( $n = 24$ ), or a non-CRS diagnosis, most commonly chronic rhinitis ( $n = 10$ ). The MPR for the overall group was  $0.44 \pm 0.33$ . Just 9.9% of patients had a perfect MPR of 1. Despite low MPR, only 19.7% of patients reported problems taking the medication when directly asked. Lower education resulted in lower MPR (unstandardized  $B = 0.065$ ,  $p = 0.046$ ). Increasing BCQ score, indicating higher barriers to care, was associated with lower MPR (unstandardized  $B = -0.010$ ,  $p = 0.033$ ). The lower the MPR, the worse patient SNOT-22 scores (unstandardized  $B = -15.980$ ,  $p = 0.036$ ).

**Conclusion:** Adherence to corticosteroid irrigations was low and patients underreported issues with their medication. Education and barriers to care were associated with lower adherence which, in turn, was associated with worse sinonasal quality of life. This article is protected by copyright. All rights reserved.

**Keywords:** chronic rhinosinusitis; corticosteroid use; irrigations; medical therapy of chronic rhinosinusitis.

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[Review](#)

Expert Rev Clin Pharmacol

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. 2023 Jun 16;1-8.

doi: 10.1080/17512433.2023.2225770. Online ahead of print.

# Updates in the diagnosis and practical management of allergic rhinitis

[Chiara Trincianti](#)<sup>1</sup>, [Maria Angela Tosca](#)<sup>1</sup>, [Giorgio Ciprandi](#)<sup>2</sup>

Affiliations expand

- PMID: 37314373
- DOI: [10.1080/17512433.2023.2225770](https://doi.org/10.1080/17512433.2023.2225770)

## Abstract

**Introduction:** Allergic rhinitis (AR) is a widespread disease that can be associated with other conditions, including conjunctivitis, rhinosinusitis, asthma, food allergy, and atopic dermatitis. Diagnosis is based on the history and documentation of sensitization, such as the production of allergen-specific IgE, preferably using molecular diagnostics. Treatments are based on patient education, non-pharmacological and pharmacological remedies, allergen-specific immunotherapy (AIT), and surgery. Symptomatic treatments mainly concern intranasal/oral antihistamines and/or nasal corticosteroids.

**Areas covered:** This review discusses current and emerging management strategies for AR, covering pharmacological and non-pharmacological remedies, AIT, and biologics in selected cases with associated severe asthma. However, AIT presently remains the unique causal treatment for AR.

**Expert opinion:** The management of allergic rhinitis could include new strategies. In this regard, particular interest should be considered in the fixed association between intranasal antihistamines and corticosteroids, probiotics and other natural substances, and new formulations (tablets) of AIT.

**Keywords:** allergen-specific immunotherapy; allergic rhinitis; biologics; medications; molecular diagnostics; nutraceuticals; patient education; surgery; type 2 inflammation.

## SUPPLEMENTARY INFO

Publication typesexpand

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Am J Rhinol Allergy

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. 2023 Jun 12;19458924231182272.

doi: 10.1177/19458924231182272. Online ahead of print.

## The Practical Role of FEF<sub>25-75</sub> in Young Patients with Allergic Rhinitis

Ignazio Cirillo<sup>1</sup>, Irene Schiavetti<sup>2</sup>, Fabio L M Ricciardolo<sup>3</sup>, Michele Miraglia Del Giudice<sup>4</sup>, Maria Angela Tosca<sup>5</sup>, Giorgio Ciprandi<sup>6</sup>

Affiliations expand

- PMID: 37309103
- DOI: [10.1177/19458924231182272](https://doi.org/10.1177/19458924231182272)

### Abstract

Allergic rhinitis (AR) is a relevant risk factor asthma as it may frequently precede asthma onset. There is evidence that lung function may be early impaired in AR patients. In this regard, the forced expiratory flow at 25%-75% of vital capacity (FEF<sub>25-75</sub>) could be a reliable marker of bronchial impairment in AR. Therefore, the present study investigated the practical role of FEF<sub>25-75</sub> in young people with AR. The parameters included history, body mass index (BMI), lung function, bronchial hyperresponsiveness (BHR), and fractional exhaled nitric oxide (FeNO). This cross-sectional study included 759 patients (74 females and 685 males, mean age of 29.2 years) suffering from AR. The study demonstrated a significant association between low FEF<sub>25-75</sub> values and BMI (OR 0.80), FEV<sub>1</sub> (OR 1.29), FEV<sub>1</sub>/FVC (OR 1.71), and BHR (OR 0.11). Stratifying the patients on the basis of the presence (or absence) of BHR, sensitization to house dust mites (OR 1.81), AR duration (OR 1.08), FEF<sub>25-75</sub> (OR 0.94), and FeNO (OR 1.08) were associated with BHR. Stratifying patients based on high FeNO values (>50 ppb), BHR was associated with high FeNO (OR 39). In conclusion, the present study showed that FEF<sub>25-75</sub> was associated with low FEV<sub>1</sub> and FEV<sub>1</sub>/FVC and BHR in AR patients. Therefore, spirometry should be considered in the long-term workup of patients with allergic rhinitis as impaired FEF<sub>25-75</sub> might suggest an initial progression toward asthma.

**Keywords:** FEF25-75; allergic rhinitis; asthma; bronchial hyperresponsiveness; fractionated exhaled nitric oxide; lung function.

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J Investig Allergol Clin Immunol

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. 2023 Jun 15;33(3):200-208.

doi: 10.18176/jiaci.0768. Epub 2021 Nov 26.

## Atopic Manifestations Are Underestimated Clinical Features in Various Primary Immunodeficiency Disease Phenotypes

J de Wit<sup>1</sup>, V Ash Dalm<sup>2,3</sup>, J Ee Totté<sup>1</sup>, L Sj Kamphuis<sup>4</sup>, C L Vermont<sup>5</sup>, F Y van Osnabrugge<sup>1</sup>, P M van Hagen<sup>2,3</sup>, S Gma Pasman<sup>1,6</sup>; Academic Centers for Allergic Diseases and the Rare Immunological Disease Centre

Affiliations expand

- PMID: 34825650
- DOI: [10.18176/jiaci.0768](https://doi.org/10.18176/jiaci.0768)

### Abstract

**Background and objectives:** Atopic manifestations are described as a clinical feature of various primary immunodeficiency disease (PID) phenotypes and are frequently reported in combined immunodeficiencies. The prevalence of atopic manifestations in other PIDs remains largely unknown. Objective: To evaluate the prevalence of atopic manifestations in

PIDs other than combined immunodeficiencies and to identify in which PIDs atopic manifestations are most common with the aim of improving patient care.

**Methods:** A partner-controlled, questionnaire-based study was performed in pediatric and adult PID patients. Data from diagnostic tests to assess atopic manifestations (ie, diagnostic criteria for atopic dermatitis, spirometry, specific IgE against food and inhalant allergens) were collected from adult patients to confirm patient-reported atopic manifestations.

**Results:** Forty-seven children and 206 adults with PIDs and 56 partner-controls completed the questionnaire. Thirty-five pediatric patients (74.5%) and 164 adult patients (79.6%) reported having experienced 1 or more atopic manifestations compared with 28 partner-controls (50.0%). In the comparison of adult patients with partner-controls, prevalence values were as follows: atopic dermatitis, 49.5% vs 27.3% ( $P=.003$ ); food allergy, 10.7% vs 1.9% ( $P=.031$ ); asthma, 55.7% vs 14.8% ( $P<.001$ ); and allergic rhinitis, 49.8% vs 21.8% ( $P<.001$ ). The frequency of current atopic manifestations reported by patients was higher than the prevalence based on diagnostic tests (atopic dermatitis, 11.2%; food allergy, 1.9%; asthma 16.4%; and allergic rhinitis, 11.5%).

**Conclusion:** Atopic manifestations are prevalent clinical features across a broad spectrum of PIDs and, in our cohort, frequently present in patients with combined immunodeficiencies and predominant antibody deficiencies. Atopic manifestations should be evaluated in patients with PIDs.

**Keywords:** Asthma; Atopic dermatitis; Food hypersensitivity; Immunologic deficiency syndromes; Seasonal allergic rhinitis.

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

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Ear Nose Throat J

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. 2023 Jun 14;1455613231180336.

doi: 10.1177/01455613231180336. Online ahead of print.

# Anxiety and Depression Diagnoses and the Cough Severity Index: A Retrospective Study

[Gopika Hari](#)<sup>1</sup>, [Matthew Naunheim](#)<sup>2</sup>, [Dorina Kallogjeri](#)<sup>1</sup>, [Molly Huston](#)<sup>1</sup>

Affiliations expand

- PMID: 37317544
- DOI: [10.1177/01455613231180336](https://doi.org/10.1177/01455613231180336)

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## Abstract

**Background:** As mental health comorbidities can impact patient perception of symptoms, understanding a potential association of anxiety and depression with patients' perception of their cough may provide insight into preferred treatment plans. **Methods:** A retrospective cohort study of patients presenting with chronic cough was completed. Demographics, anxiety and depression diagnoses, and patient-reported outcome measures were collected. Patient-reported outcomes between the four groups of patients-anxiety only, depression only, anxiety and depression, and none of these conditions-were compared using Kruskal-Wallis and Mann-Whitney *U* tests that were used for post-hoc analysis. **Results:** Cough Severity Index scores were higher in those with both anxiety and depression as compared to neither, with a median score of 26 (range: 5-39) versus 19 (range: 1-38), respectively ( $P = .041$ ). These results were persistent also after controlling for sex and smoking status in the robust regression analysis. **Conclusions:** Patients with prior diagnoses of anxiety and depression self-reported more severe symptoms for chronic cough. Adequately understanding the association of mental health with perceived cough severity may help for more individualized, successful treatment plans.

**Keywords:** Cough; anxiety; depression; mental health.

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. 2023 Jun 15;207(12):1649-1650.

doi: 10.1164/rccm.202304-0643LE.

## What the Placebo Tells Us about Chronic Cough

[Miles Weinberger<sup>1</sup>](#)

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

1

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# Cystic fibrosis modulator therapy can reverse cystic bronchiectasis

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## Abstract

Bronchiectasis is often considered progressive and irreversible, so cases of regression or reversal are an important step in understanding the underlying pathophysiological mechanisms. Cystic fibrosis, (CF) caused by pathogenic variants in the *cystic fibrosis transmembrane conductance regulator (CFTR)* gene has been a success story in personalized medicine. The recent development of *CFTR* modulator therapies has revolutionized care. Dramatic improvements in lung function, sputum production, daytime functioning, and quality of life are seen within weeks. However, the effect of long-term exposure to elexacaftor + tezacaftor + ivacaftor (ETI) on the structural abnormalities is at present unknown. This case series outlines three adults with CF who have demonstrated progressive improvement in the cylindrical, varicose and importantly cystic changes of bronchiectasis with prolonged ETI treatment. This raises the exciting question of reversibility of bronchiectasis as well as the mechanisms involved in the maintenance and progression of bronchiectasis as it relates to CF.

**Keywords:** bronchiectasis; cystic fibrosis; elexacaftor; ivacaftor; tezacaftor.

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## Conflict of interest statement

Peter Middleton reports grants from Vertex Pharmaceuticals, during the conduct of the study; personal fees from Vertex Pharmaceuticals, outside the submitted work. Nicholas Simmonds reports personal fees from Vertex Pharmaceuticals, Chiesi, Gilead, Menarini, Zambon, outside the submitted work.

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# Structural changes in lung morphology detected by MRI after modulating therapy with elexacaftor/tezacaftor/ivacaftor in adolescent and adult patients with cystic fibrosis

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# Abstract

**Introduction:** Elexacaftor/tezacaftor/ivacaftor (ELX/TEZ/IVA) improves CFTR function in cystic fibrosis (CF) patients homozygous or heterozygous for F508del mutation. The aim of the study was to evaluate the response to ELX/TEZ/IVA treatment both clinically and morphologically in terms of bronchiectasis, bronchial wall thickening, mucus plugging, abscess and consolidations.

**Methods:** We retrospectively collected data from CF patients followed at Parma CF Centre (Italy) treated by ELX/TEZ/IVA between March and November 2021. Post-treatment changes in respiratory function, quality of life, sweat chloride concentration, body mass index, pulmonary exacerbations and lung structure by chest magnetic resonance imaging (MRI) were assessed. T2-and T1-weighted sequences were acquired with a 20 min-long scanning protocol on a 1.5T MRI scanner (Philips Ingenia) without administration of intravenous contrast media.

**Results:** 19 patients ( $32.5 \pm 10.2$  years) were included in the study. After 6 months of treatment with ELX/TEZ/IVA, MRI showed significant improvements in the morphological score ( $p < 0.001$ ), with a reduction in bronchial wall thickening ( $p < 0.001$ ) and mucus plugging ( $p = 0.01$ ). Respiratory function showed significant improvement in predicted FEV<sub>1</sub>% ( $58.5 \pm 17.5$  vs  $71.4 \pm 20.1$ ,  $p < 0.001$ ), FVC% ( $79.0 \pm 11.1$  vs  $88.3 \pm 14.4$ ,  $p < 0.001$ ), FEV<sub>1</sub>/FVC ( $0.61 \pm 0.16$  vs  $0.67 \pm 0.15$ ,  $<0.001$ ) and LCl<sub>2.5%</sub> ( $17.8 \pm 4.3$  vs  $15.8 \pm 4.1$   $p < 0.005$ ). Significant improvement was found in body mass index ( $20.6 \pm 2.7$  vs  $21.9 \pm 2.4$ ,  $p < 0.001$ ), pulmonary exacerbations ( $2.3 \pm 1.3$  vs  $1.4 \pm 1.3$   $p = 0.018$ ) and sweat chloride concentration ( $96.5 \pm 36.6$  vs  $41.1 \pm 16.9$ ,  $p < 0.001$ ).

**Conclusions:** Our study confirms the efficacy of ELX/TEZ/IVA in CF patients not only from a clinical point of view but also in terms of morphological changes of the lungs.

**Keywords:** Cystic fibrosis; ELX/TEZ/IVA; Lung structure; MRI; Modulators; Mucus plugging.

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## Conflict of interest statement

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

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## Severe Asthma and Biologics: Managing Complex Patients

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### Abstract

Bronchial asthma is a chronic inflammatory disease of the respiratory tract that varies in terms of clinical presentations (phenotypes) and distinct underlying pathophysiological mechanisms (endotypes). The definition of phenotype/endotype is crucial, given the availability of novel biologic agents for patients who do not respond to conventional therapies. Although patients with type 2 severe asthma benefit significantly from treatment with biologics, nonresponders have been identified. Comorbidities worsen the symptoms of asthma and complicate management of the disease. The assessment and treatment of comorbidities is a crucial step, and appropriate management may improve asthma symptoms and morbidity. Among comorbidities, those with a marked negative impact on control despite appropriate treatment include chronic rhinosinusitis with nasal polyps, obesity, bronchiectasis, and immune deficiency. Although asthma is frequently characterized by increased blood eosinophils that release mediators and cytokines and are involved in inflammation of the airway wall, in patients with very high blood eosinophil levels, we must differentiate between isolated severe eosinophilic asthma and asthma in eosinophilic granulomatosis with polyangiitis. In addition, hypereosinophilia may result from specific biological treatment, as in the case of dupilumab. We outline the clinical features of patients with severe asthma whose disease is complex to manage.

**Keywords:** Biologics; Dupilumab-induced hypereosinophilia; Severe asthma.

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