



Clinical remission in severe asthma with biologic therapy: an analysis from the UK Severe Asthma Registry

P. Jane McDowell^{1,2}, Ron McDowell³, John Busby³, M. Chad Eastwood^{1,2}, Pujan H. Patel⁴, David J. Jackson⁵, Adel Mansur⁶, Mitesh Patel⁷, Hassan Burhan⁸, Simon Doe⁹, Rekha Chaudhuri¹⁰, Robin Gore¹¹, James W. Dodd¹², Deepak Subramanian¹³, Thomas Brown¹⁴ and Liam G. Heaney^{1,2} on behalf of the UK Severe Asthma Registry

¹Wellcome Wolfson Centre for Experimental Medicine, School of Medicine, Dentistry and Biomedical Sciences, Queen's University, Belfast, UK. ²Belfast Health and Social Care NHS Trust, Belfast, UK. ³Centre for Public Health, School of Medicine, Dentistry and Biomedical Sciences, Queen's University, Belfast, UK. ⁴Royal Brompton and Harefield Hospitals, London, UK. ⁵Guy's Severe Asthma Centre, Guy's Hospital, School of Immunology and Microbial Sciences, King's College London, London, UK. ⁶University of Birmingham and Heartlands Hospital, Birmingham, UK. ⁷Department of Respiratory Medicine, University Hospitals Plymouth NHS Trust, Derriford Hospital, Plymouth, UK. ⁸Royal Liverpool University Hospital, Liverpool, UK. ⁹The Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK. ¹⁰NHS Greater Glasgow and Clyde Health Board, Gartnavel Hospital, Glasgow, UK. ¹¹Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK. ¹²Academic Respiratory Unit, University of Bristol, Bristol, UK. ¹³University Hospitals of Derby and Burton NHS Foundation Trust, Derby, UK. ¹⁴Portsmouth Hospitals NHS Trust, Portsmouth, UK.

Corresponding author: P. Jane McDowell (janemcdowell@doctors.org.uk)



Shareable abstract (@ERSpublications)

Analysis of a real-world severe asthma registry shows clinical remission rates of 18%; associated pre-biologic characteristics include male sex, never smoking, BMI <30 kg·m⁻², shorter disease duration, T2-high biomarkers and lower symptom burden <https://bit.ly/46JLeDb>

Cite this article as: McDowell PJ, McDowell R, Busby J, *et al.* Clinical remission in severe asthma with biologic therapy: an analysis from the UK Severe Asthma Registry. *Eur Respir J* 2023; 62: 2300819 [DOI: 10.1183/13993003.00819-2023].

This extracted version can be shared freely online.

Abstract

Background Novel biologic therapies have revolutionised the management of severe asthma with more ambitious treatment aims. Here we analyse the definition of clinical remission as a suggested treatment goal and consider the characteristics associated with clinical remission in a large, real-world severe asthma cohort.

Methods This was a retrospective analysis of severe asthma patients registered in the UK Severe Asthma Registry (UKSAR) who met strict national access criteria for biologics. Patients had a pre-biologics baseline assessment and annual review. The primary definition of clinical remission applied included Asthma Control Questionnaire (ACQ)-5 <1.5 and no oral corticosteroids for disease control and forced expiratory volume in 1 s above lower limit of normal or no more than 100 mL less than baseline.

Results 18.3% of patients achieved the primary definition of remission. The adjusted odds of remission on biologic therapy were 7.44 (95% CI 1.73–31.95)-fold higher in patients with type 2 (T2)-high biomarkers. The adjusted odds of remission were lower in patients who were female (OR 0.61, 95% CI 0.45–0.93), obese (OR 0.49, 95% CI 0.24–0.65) or had ACQ-5 ≥1.5 (OR 0.19, 95% CI 0.12–0.31) pre-biologic therapy. The likelihood of remission reduced by 14% (95% CI 0.76–0.97) for every 10-year increase in disease duration. 12–21% of the cohort attained clinical remission depending on the definition applied; most of those who did not achieve remission failed to meet multiple criteria.

Conclusions 18.3% of patients achieved the primary definition of clinical remission. Remission was more likely in T2-high biomarker patients with shorter duration of disease and less comorbidity. Further research on the optimum time to commence biologics in severe asthma is required.

Copyright ©The authors 2023.

This version is distributed under the terms of the Creative Commons Attribution Licence 4.0.

This article has an editorial commentary:
<https://doi.org/10.1183/13993003.01844-2023>

Received: 16 May 2023
Accepted: 5 Oct 2023

