# Mepolizumab Treatment Leads to Clinical Remission in Patients With Severe Eosinophilic Asthma: Results From the Real-World REDES Study

**Poster No. 606**

Christian Domingo-Ribas MD, PhD[1], Ian Pavord FMedSci, DM[2], Robert G. Price MSc[3], Peter Howarth DM[4], John Oppenheimer MD[5], Liam Heaney MD[6], Hiroyuki Nagase MD, PhD[7], Emilio Pizzichini MD, PhD[4,8], David Banas Conejero MSc[9], Frances Gardiner MPhil[4]

[1]Servei de Pneumologia, Corporació Sanitària Parc Taulí, Sabadell, Barcelona, Spain; [2]Respiratory Medicine Unit and Oxford Respiratory National Institute for Health Research Biomedical Research Centre, Nuffield Department of Medicine, Oxford, UK; [3]Biostatistics, GSK, Stevenage, Hertfordshire, UK; [4]Global Medical, Global Specialty & Primary Care TA, GSK House, Brentford, Middlesex, UK; [5]Rutgers New Jersey Medical School, Newark, NJ, USA; [6]Wellcome Wolfson Institute for Experimental Medicine, Queen's University Belfast, Belfast, UK; [7]Division of Respiratory Medicine and Allergology, Department of Medicine, Teikyo University School of Medicine, Tokyo, Japan; [8]Federal University of Santa Catarina, Santa Catarina, Brazil; [9]Specialty Care Medical Department, GSK, Madrid, Spain

## Introduction

Mepolizumab, a humanized anti-IL-5 monoclonal antibody, is approved as an add-on treatment for use in patients with severe eosinophilic asthma,[1,2] and has been shown to reduce exacerbations and maintenance OCS use, while improving symptom control.[3–9]

Several real-world studies, including the REDES study,[10] have further demonstrated that mepolizumab is effective at enabling patients with severe eosinophilic asthma to achieve treatment goals such as OCS elimination, exacerbation reduction, or symptom control.[10,11]

There is currently an ambition in clinical practice to move from single measures of disease control to a relevant composite measure when assessing impact of treatment in patients with severe eosinophilic asthma.

This post hoc analysis assessed the proportion of patients achieving a multicomponent treatment goal of clinical remission (based on OCS-free, exacerbation-free, and asthma control) after 1 year of treatment with mepolizumab.

## Methods

**REDES (GSK ID: 213172)**
**Study design**

- Real world
- Observational
- Retrospective
- National (multicenter)
- Single arm

**Clinical diagnosis of severe eosinophilic asthma:**
≥18 years of age
Initiated mepolizumab treatment at least 12 months prior to study inclusion
12 months of key clinical information prior to mepolizumab initiation

Standard-of-care therapy, plus add-on:
**Mepolizumab 100 mg SC**

**Retrospective data collection**
**December 2019** to **July 2020**

**Study follow-up period:**
Every 6 months for **≥12 months**

**Dataset:**
**260** patients **eligible***
*from* 24 centers
*across* Spain

**Post hoc analysis endpoint:**
Proportion of patients achieving clinical remission **52 weeks** after mepolizumab initiation

**Three-way definition of clinical remission:**
**OCS-free** at Week 52† + **Exacerbation-free** for 52 weeks + **ACT score ≥20** at Week 52
↓
**Clinical remission achievement‡**

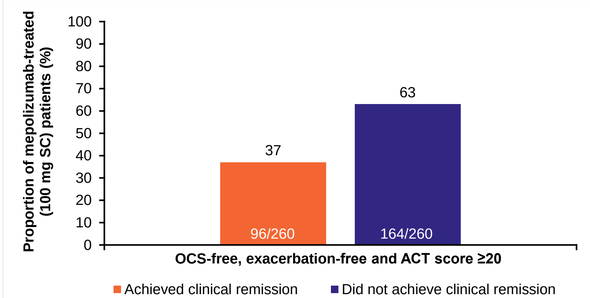
*Only patients with data available across all 3 contributing components for measuring clinical remission were included in these post hoc analyses (N=260/318, 82% of the total treated population). 58 patients were excluded due to missing ACT score at Week 52; †Not receiving OCS at baseline and remained off OCS at Week 52 or tapered off during the study; ‡The proportion of patients achieving one or two components of the clinical remission criteria was also described

## Results

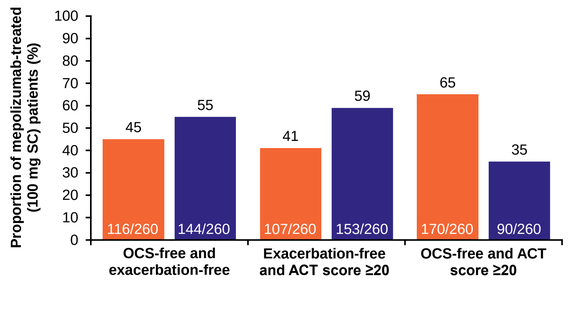
### Patient baseline demographics and clinical characteristics for those who did/did not achieve the three-way definition of clinical remission

| | Achieved clinical remission (n=96) | Did not achieve clinical remission (n=164) |
|---|---|---|
| **Age, years** mean (SD) | 56.9 (10.3) | 57.0 (14.1) |
| **Age at asthma diagnosis, years** mean (SD) | 32.2 (16.5) | 35.5 (18.9) |
| **Female** n (%) | 70 (73) | 120 (73) |
| **BMI, kg/m²** mean (SD) | 28.0 (5.0) | 28.6 (5.7) |
| **Exacerbations in the 12 months pre-mepolizumab** mean (SD) | 4.1 (3.3) | 4.9 (3.6) |
| **Baseline ACT score** mean (SD) | 15.2 (5.0) | 13.6 (4.9) |
| **Uncontrolled baseline ACT score (<20)** n (%) | 72 (80) | 136 (88) |
| **Controlled baseline ACT score (≥20)** n (%) | 18 (20) | 18 (12) |
| **OCS dependent in the 12 months pre-mepolizumab** n (%) | 20 (21) | 85 (52) |
| **Baseline OCS dose** median (IQR) | 5.0 (4.0, 13.3) | 10.0 (5.0, 20.0) |
| **Blood eosinophil count** Geometric mean (SD log) | 675.9 (0.69) | 433.2 (1.52) |
| **Baseline % pred post-bronchodilator $FEV_1$** Mean (SD) | 82.2 (23.3) | 73.6 (22.7) |

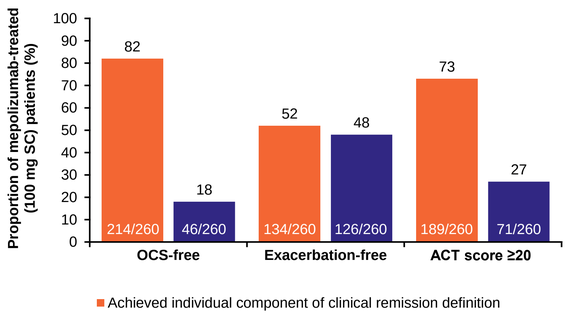
### Overall, 37% of patients achieved clinical remission based on the composite three-way definition




### Between 41 to 65% of patients achieved two components of clinical remission




### At least 50% of patients met the individual components of clinical remission; majority met the OCS-free (82%) and ACT score ≥20 (73%) components




## Discussion & Conclusions

- In this analysis, lung function was not included as a component of the three-way clinical remission definition as a consensus definition for $FEV_1$ improvement has not yet been established.
  - It is also recognized that patients with severe asthma often have irreversible airway remodeling,[12] which prevents them from meeting optimized or desirable lung function targets.
- The clinical remission criteria applied were based on a modified Delphi survey approach[13] but did not consider remission from a patient's perspective.
- A key focus in asthma management is earlier treatment initiation to halt disease progression, prevent permanent consequences of the disease, and improve the likelihood of patients being able to achieve remission, and ultimately lead a normal life.
- This post hoc analysis using data from the REDES study showed that 37% of patients met the three-way definition of clinical remission, 41–65% met the different combinations of the two-way definitions, and ≥50% met each individual component of clinical remission.
- These real-world data demonstrate that mepolizumab is effective at enabling patients with severe eosinophilic asthma to achieve a status of clinical remission. Clinical remission is an ambitious multicomponent treatment goal comprising key clinical criteria for patients treated in routine clinical practice.

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**Abbreviations**

ACT, Asthma Control Test; BMI, body mass index; $FEV_1$, forced expiratory volume in 1 second; IL, interleukin; IQR, interquartile range; OCS, oral corticosteroids; Pred, predicted; SC, subcutaneous; SD, standard deviation.

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