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REAL-WORLD EFFECTIVENESS OF MEPOLIZUMAB IN REDUCING ASTHMA EXACERBATIONS IN JAPAN

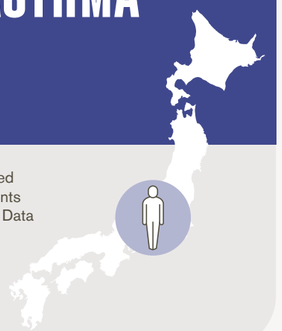
Authors:
Nagase H[1], Tamaoki J[2], Suzuki T[3], Nezu Y[2], Akiyama S[3], Cole A[4], Yang S[4], Mu G[4], Katsumata M[3], Komatsubara M[2], Alfonso-Cristancho R[4]

Affiliations:
[1]Division of Respiratory Medicine and Allergology, Department of Medicine, Teikyo University School of Medicine, Tokyo, Japan; [2]Respiratory Medical Affairs & Development, GSK, Tokyo, Japan; [3]Japan Development Division, GSK, Tokyo, Japan; [4]Value Evidence & Outcomes, GSK, Collegeville, PA, USA

AIMS

To better understand how mepolizumab performs in the real world, we assessed the impact of mepolizumab on exacerbation rates and OCS dose among patients with severe eosinophilic asthma in Japan, using data derived from the Medical Data Vision (MDV) Claims Database

Mepolizumab is a humanized anti-interleukin-5 monoclonal antibody approved as an add-on therapy for severe eosinophilic asthma in multiple regions worldwide[1–3]



START HERE

We searched real-world data in the MDV claims database

For patients with medical claims between **JUNE 2015 AND SEPTEMBER 2019**

OVER 23 MILLION PATIENTS WERE INCLUDED IN THE DATABASE DURING THE STUDY PERIOD

We EXCLUDED patients with:
- Inconsistent/missing information on age and sex
- A diagnosis of EGPA up to 12 months before their first mepolizumab injection

1007 PATIENTS HAD ≥1 MEDICAL CLAIM FOR MEPOLIZUMAB

We INCLUDED patients with
a medication code* indicating mepolizumab administration, PLUS:
- A diagnosis of asthma up to 12 months before first mepolizumab injection
- Regular (quarterly) contact with healthcare systems in the MDV database during the 12 months before and 12 months after mepolizumab initiation
- 12+ years of age at first mepolizumab injection

377 PATIENTS INCLUDED IN THIS ANALYSIS

AT BASELINE:

Mean age **62 years**
Female **61%**

86% receiving OCS‡ (including short bursts)

29% receiving mOCS‡

4.0 mean exacerbations‡

MOST COMMON† CHRONIC COMORBIDITIES
- Allergic rhinitis (65%)
- GERD (58%)
- COPD (52%)
- Hypertension (37%)
- Diabetes (34%)
- Atopic dermatitis (23%)
- Chronic sinusitis (22%)

Exacerbations were defined as:
Outpatient asthma visit with short-term SCS treatment

OR Inpatient asthma visit treated with adrenaline, IV steroids, or aminophylline

OR At least a doubling of mOCS dose (for patients receiving mOCS)

WE ANALYZED:
THE RATE OF AND PROPORTION OF PATIENTS WITH ANY EXACERBATION

THE RATE OF AND PROPORTION OF PATIENTS WITH EXACERBATIONS REQUIRING HOSPITALIZATION

12 MONTHS BEFORE — **1ST MEPOLIZUMAB INJECTION** — **UP TO 12 MONTHS AFTER§**

281.5 DAYS MEAN DURATION OF FOLLOW-UP

WE ALSO ANALYZED MEDIAN DAILY OCS DOSE IN 97 PATIENTS WITH CONTINUOUS mOCS USE¶

3 MONTHS BEFORE AND UP TO 12 MONTHS AFTER 1ST MEPOLIZUMAB INJECTION

41% EXACERBATIONS PER PATIENT-YEAR
Decreased by **41%**

Before mepolizumab‡: **4.0**
After mepolizumab initiation: **2.4****

PROPORTION OF PATIENTS WITH ANY EXACERBATION
Decreased by **31%**
(**84%** before‡ vs **58%** after§ mepolizumab initiation)

56% EXACERBATIONS REQUIRING HOSPITALIZATION PER PATIENT-YEAR
Decreased **by 56%**

Before mepolizumab‡: **0.37**
After mepolizumab initiation§: **0.16**

PROPORTION OF PATIENTS WITH AN EXACERBATION REQUIRING HOSPITALIZATION
Decreased **by 57%**
(**24%** before‡ vs **10%** after§ mepolizumab initiation)

UP TO 51% MEDIAN DAILY OCS DOSE (mg/day)
Decreased **by up to 51%**

Before mepolizumab††: **6.7**
0–≤3 months: **5.0**
>3–≤6 months: **4.0**
>6–≤9 months: **3.7**
>9–≤12 months: **3.3**
after mepolizumab initiation

SUMMARY

41–56% REDUCTION
in exacerbation rates in patients with severe eosinophilic asthma treated with mepolizumab in a real-world setting

Mepolizumab also reduced daily OCS doses by **up to 51%**

This reflects the findings of previous Phase III **clinical trials**, which have shown **mepolizumab reduces exacerbations and OCS use** compared with placebo for patients with severe eosinophilic asthma[4–7]

Our results show that the effectiveness of mepolizumab previously demonstrated in clinical trials **translates to the real world**

*MDV code 622489001; †reported by ≥20% of patients: chronic comorbidities were identified by the presence of a disease code accompanied by a confirmed diagnosis code in ≥2 medical claims; ‡in the year before mepolizumab initiation; §patient follow-up was censored at the first instance of any of the following: 1-year after mepolizumab initiation, mepolizumab discontinuation (>90 days without another mepolizumab injection), start of another asthma biologic, or 3 days preceding first bronchial thermoplasty; ¶patients with <15 days between incidences of mOCS use during the 3 months before mepolizumab initiation; **incidence rate ratio, mepolizumab/placebo (95% CI): 0.601 (0.535, 0.675), p<0.0001; ††baseline was defined as the 3 months preceding mepolizumab initiation.

CI, confidence interval; COPD, chronic obstructive pulmonary disease; EGPA, eosinophilic granulomatosis with polyangiitis; GERD, gastroesophageal reflux disease; IV, intravenous; mOCS, maintenance oral corticosteroids; OCS, oral corticosteroids; SCS, systemic corticosteroids.

Disclosures
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