Aims

The anti-IgE monoclonal antibody, mepolizumab, is approved as an add-on therapy for patients with severe eosinophilic asthma in multiple regions worldwide.

Mepolizumab reduces exacerbations and OCS dependence, and improves lung function, asthma control, and HRQoL in patients with severe RCT.

As real-world use of mepolizumab increases, the population of patients with access to mepolizumab is more diverse than those included in the mepolizumab RCTs.

The objective of this SLR was to examine the effectiveness of mepolizumab across real-world studies in asthma is to understand to what extent the benefits of mepolizumab in RCTs translate into clinical practice.

Methods

Study selection

Studies included in the main SLR

Prospective studies on mepolizumab

- Clinical trial registration (n=7)
- Observational/retrospective (n=8)
- Reviews (n=3)
- Systematic reviews (n=1)

Prospective studies on placebo

- Clinical trial registration (n=4)
- Observational/retrospective (n=4)
- Reviews (n=4)
- Systematic reviews (n=1)

Retrospective studies

- Observational/retrospective (n=1)
- Reviews (n=1)
- Systematic reviews (n=1)

Outcomes

- Exacerbations
- OCS dependence
- Lung function
- HRQoL
- Safety

Results

Baseline demographics and characteristics

- Adult (n=18)
- Children (n=1)
- Total (n=19)

Mepolizumab reduced the frequency of exacerbations compared with baseline

- Prospective studies: n=18
- Retrospective studies: n=1

Mepolizumab reduced OCS dependence compared with baseline

- Prospective studies: n=18
- Retrospective studies: n=1

Conclusions

- Treatment discontinuation due to AEs:
  - Prospective studies: 0–1% of patients (12 months of follow-up)
  - Retrospective studies: 0–6% of patients (6–12 months of follow-up)

- Overall, the results from grey literature sources were consistent with the main SLR/non-grey literature publications.

- Patients with severe asthma treated in real-world clinical practice demonstrate benefits with mepolizumab, consistent with results from mepolizumab RCTs.

- *Grey literature included letters to the editor and congress abstracts.

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