Mepolizumab long-term safety in severe eosinophilic asthma

Digital poster
Supplemental data
Narrated summary

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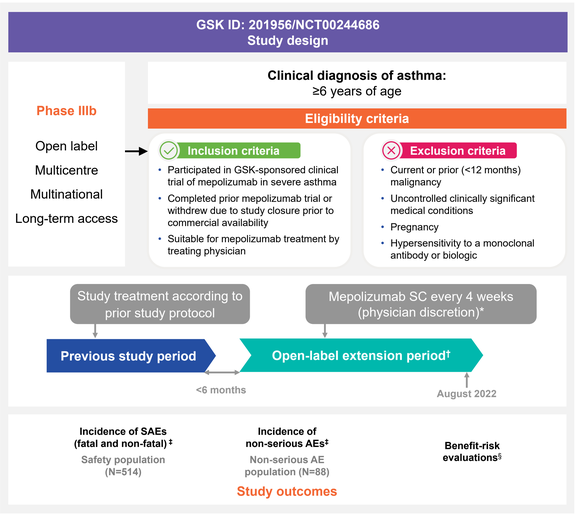
Aims

- Mepolizumab is a humanised monoclonal antibody, targeting IL-5, and is approved as an add-on treatment for severe asthma.[1]
- The efficacy and safety of mepolizumab in patients with severe asthma has been well documented, including in randomised controlled trials.[2–6] Long-term open-label extension studies have also shown that mepolizumab is well tolerated and has a favourable benefit-risk profile, up to 4.5 years in patients with severe asthma.[7–9]
- However, longer-term safety monitoring would be beneficial to support long-term use of mepolizumab in patients with severe asthma.
- This open-label extension study (NCT00244686) aimed to evaluate the long-term safety and benefit-risk profile of mepolizumab in patients with severe asthma who had previously participated in a mepolizumab clinical study.

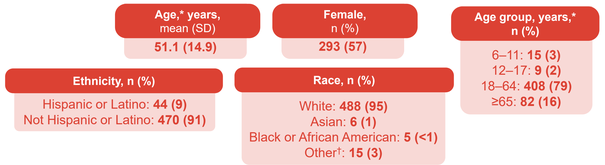
Methods



100 mg SC for patients aged ≥12 years, 40 mg/100 mg (by body weight) SC for patients aged 6–11 years; †treatment continued if benefit-risk was appropriate or until either: i) mepolizumab was commercially licensed for the treatment of asthma in the age-specific patient population within the relevant country, or ii) the study closed in August 2022, or iii) the patient met any of the withdraw/stopping criteria; ‡AEs and SAEs were collected from administration of the first dose of mepolizumab and continued up to 28 days after the last mepolizumab dose. All patients reported serious AEs; non-serious AEs were only required per protocol to be reported from patients who were enrolled in the United Kingdom, Czech Republic, Estonia, Greece, Slovakia and patients who participated in the previous 200363 study of mepolizumab in patients aged 6–11 years; §collected every 12 weeks

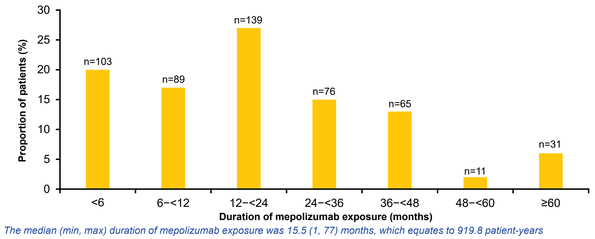
Results

Figure 1: Patient demographics at enrolment (N=514)



Age was imputed when full date of birth was not provided; †other included American Indian, Native Alaskan, Native Hawaiian, Other Pacific Islander or multiple race reported

Figure 2: Mepolizumab treatment follow-up within the open-label extension period was observed for up to 77 months (6.4 years), with most patients exposed to mepolizumab for 12–<24 months in addition to previous study exposure



The median (min, max) duration of mepolizumab exposure was 15.5 (1, 77) months, which equates to 919.8 patient-years

Pathway of patients from studies feeding into the 201956 study

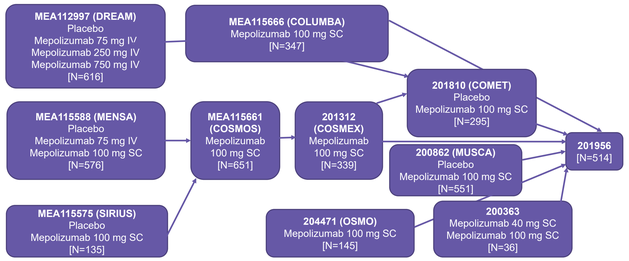
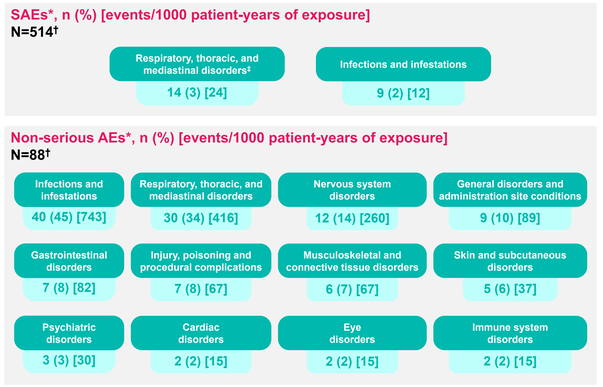


Table 1: Overall, 37 patients had on-treatment SAEs, 2 of which were related to study treatment*; of the 52 patients with on-treatment non-serious AEs, 6 were related to study treatment

SAEs, n (%) (N=514)†	
Any on/post treatment	38 (7)
Related to study treatment*	2 (<1)
Leading to permanent discontinuation of study treatment	3 (<1)
Leading to withdrawal from the study	3 (<1)
Leading to dose interruption/delay	4 (<1)
Fatal	0
Any on-treatment	37 (7)
Any post-treatment	1 (<1)
Non-serious AEs, n (%) (N=88)†	
Any on/post-treatment	52 (59)
Related to study treatment*	6 (7)
Leading to permanent discontinuation of study treatment	1 (1)
Leading to withdrawal from the study	1 (1)
Leading to dose interruption/delay	4 (5)
Any on-treatment	52 (59)
Any post-treatment	2 (2)

Events were considered by the investigator to be related to study treatment; †all patients reported serious AEs; non-serious AEs were only required per protocol to be reported from patients who were enrolled in the United Kingdom, Czech Republic, Estonia, Greece, Slovakia and patients who participated in the previous 200363 study of mepolizumab in patients aged 6–11 years

Figure 3: On-treatment SAEs were reported in a small proportion of patients, with respiratory, thoracic, and mediastinal disorders the most common and reported in 3% of patients; infections and infestations were the most common on-treatment non-serious AEs

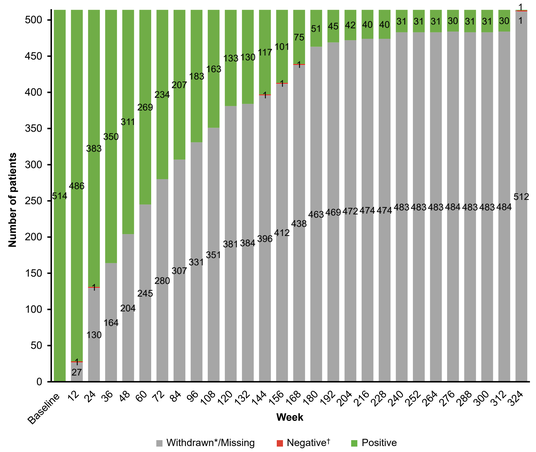


Serious AEs and non-serious AEs system organ classes are summarised where incidence >1% of patients; †all patients reported serious AEs; non-serious AEs were only required per protocol to be reported from patients who were enrolled in the United Kingdom, Czech Republic, Estonia, Greece, Slovakia and patients who participated in the previous 200363 study of mepolizumab in patients aged 6–11 years; ‡most frequent preferred term for this system organ class was asthma

Conclusion

- This study provides safety data on patients with severe asthma, including paediatric patients, treated with mepolizumab up to 77 months (6.4 years).
- The long-term safety profile of mepolizumab in severe asthma demonstrated in this study builds on and aligns with previous reports of mepolizumab safety in severe asthma.[7–9]
  - Consistent with previous open-label extension studies with mepolizumab, the most frequent on-treatment SAEs were respiratory, thoracic and mediastinal disorders and infections and infestations, with exposure-adjusted event rates comparable to or lower than those observed in previous studies.[7-9]
- Mepolizumab was well tolerated, with most patients demonstrating a favourable benefit-risk profile over the study period.
- Overall, no new safety signals were observed. Given this study demonstrated the safety profile of mepolizumab over the longest period investigated to date, this supports its long-term use in patients with severe asthma.

Figure 4: A positive benefit-risk profile was reported over the duration of the study



Most withdrawals (70%) were as a result of mepolizumab becoming commercially available in the respective age groups. Other reasons for withdrawal included physician decision (n=68, 13%), patient decision (n=51, 10%), lack of efficacy (n=13, 3%), lost to follow-up (n=6, 1%), study terminated by sponsor (n=6, 1%), and adverse events (n=5, <1%). Following the onset of the Ukraine-Russia conflict in February 2022, the sixty-three of all 91 patients from Ukraine who were still ongoing were withdrawn due to the conflict; these patients were included within the physician decision withdrawal category; †where a negative benefit/ratio was identified by the treating physician, the patient was subsequently withdrawn from the study

Abbreviations

AE, adverse event; IL, interleukin; IV, intravenous; SAE, severe adverse event; SC, subcutaneous; SD, standard deviation.

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Disclosures

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