

# Mepolizumab Reduces Systemic Corticosteroid Use in Patients With Chronic Rhinosinusitis With Nasal Polyps

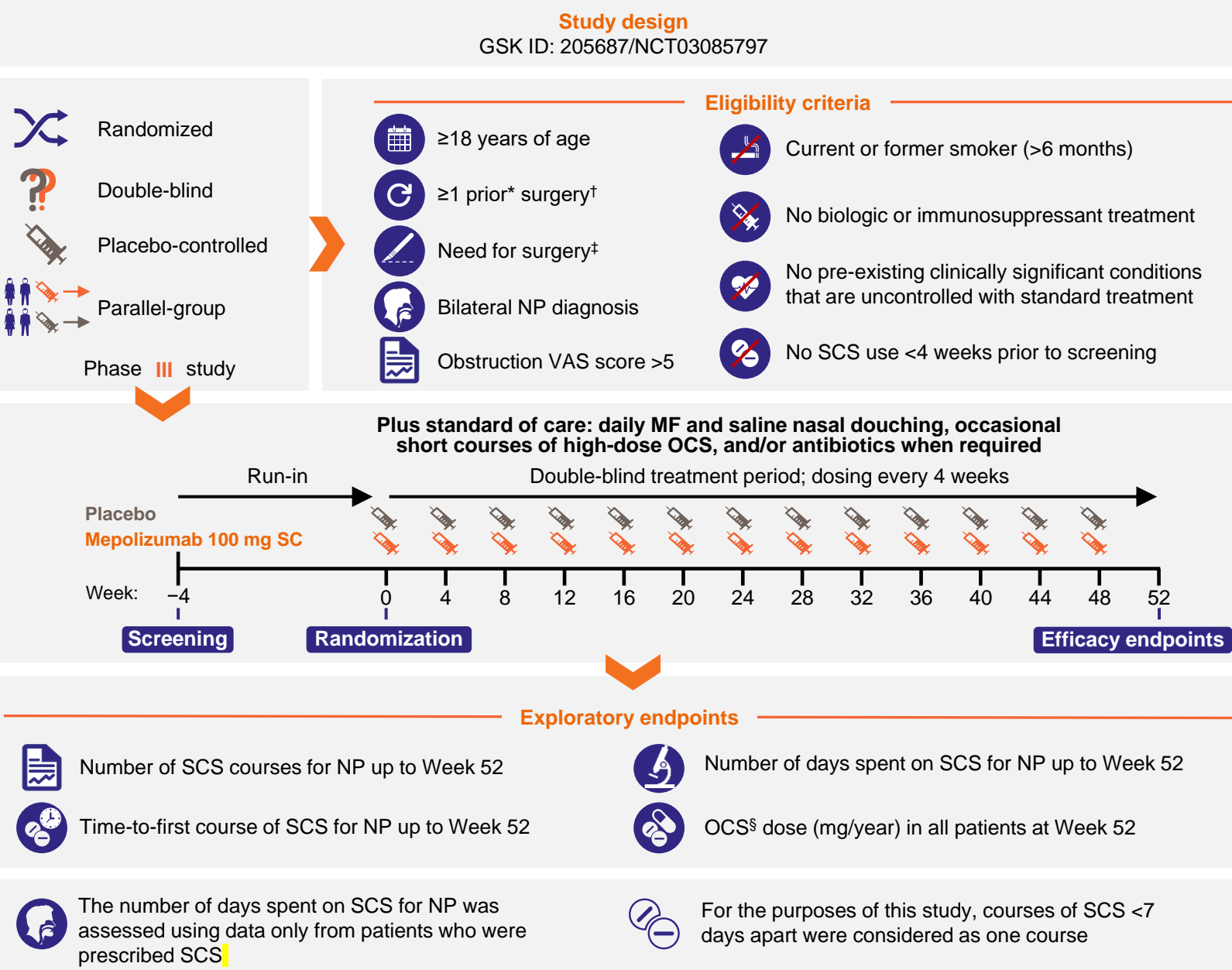
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## Aims

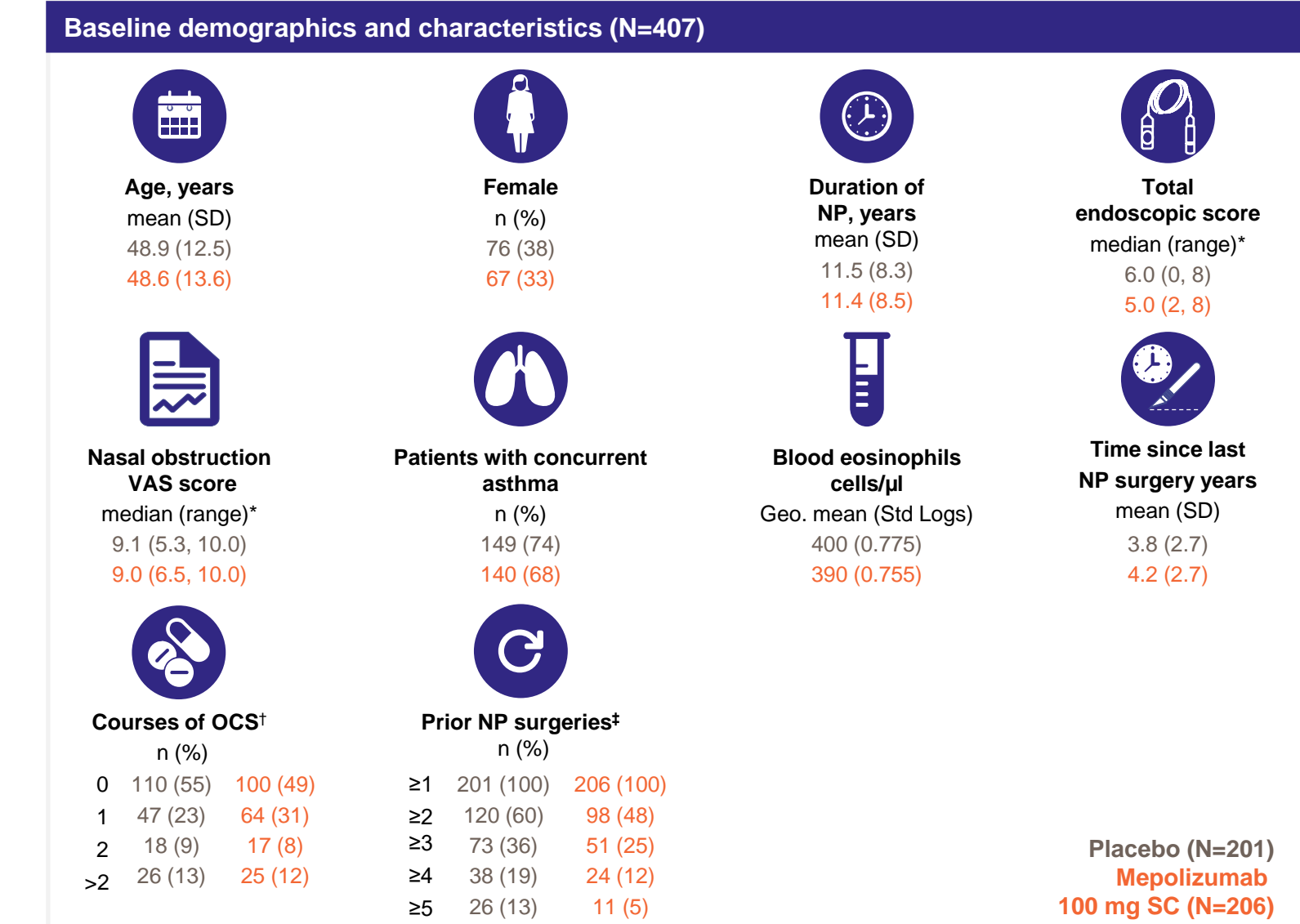
- CRSwNP is a subtype of CRS, characterized by chronic eosinophilic inflammation of the nose, paranasal sinuses, and upper airways.<sup>1,2</sup> CRSwNP often involves type 2 inflammation, including IL-5,<sup>2</sup> and symptoms include congestion, rhinorrhea, anosmia, and pain or facial pressure.<sup>1-3</sup>
- For patients with poor symptom control, SCS are often prescribed to address the underlying inflammation. Despite temporary improvement in symptoms with SCS use, long-term exposure is associated with adverse effects.<sup>4,5</sup>
- Mepolizumab is a targeted, humanized monoclonal antibody that binds to and inactivates IL-5. The SYNAPSE Phase III clinical study assessed the efficacy and safety of 4-weekly add-on mepolizumab 100 mg SC, in adults with CRSwNP in need of repeat surgery.
- In the SYNAPSE study, analysis of the primary and secondary endpoints showed that mepolizumab treatment reduced nasal polyp size, improved nasal obstruction, and reduced the number of patients with surgery versus placebo; NP symptoms were also improved.<sup>6</sup>
- The efficacy of mepolizumab in reducing SCS use in patients with CRSwNP was assessed as an exploratory endpoint in the study.

## Methods



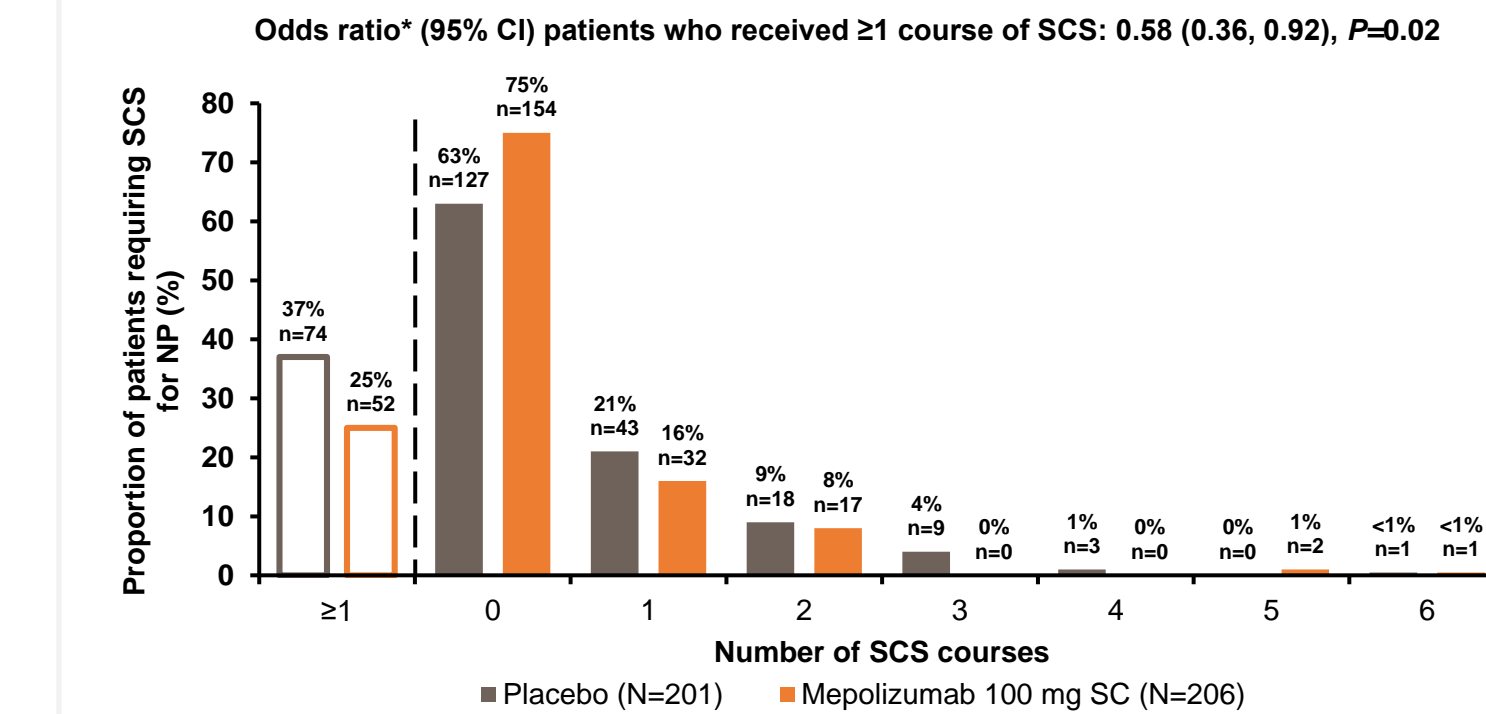
\*Within the last 10 years; †defined as any procedure involving instruments with resulting incision and removal of polyp tissue from the nasal cavity; ‡defined as overall VAS symptom score >7 and an endoscopic bilateral NP score ≥5 (with a minimum score of 2 per nostril); §prednisolone-equivalent.

## Results

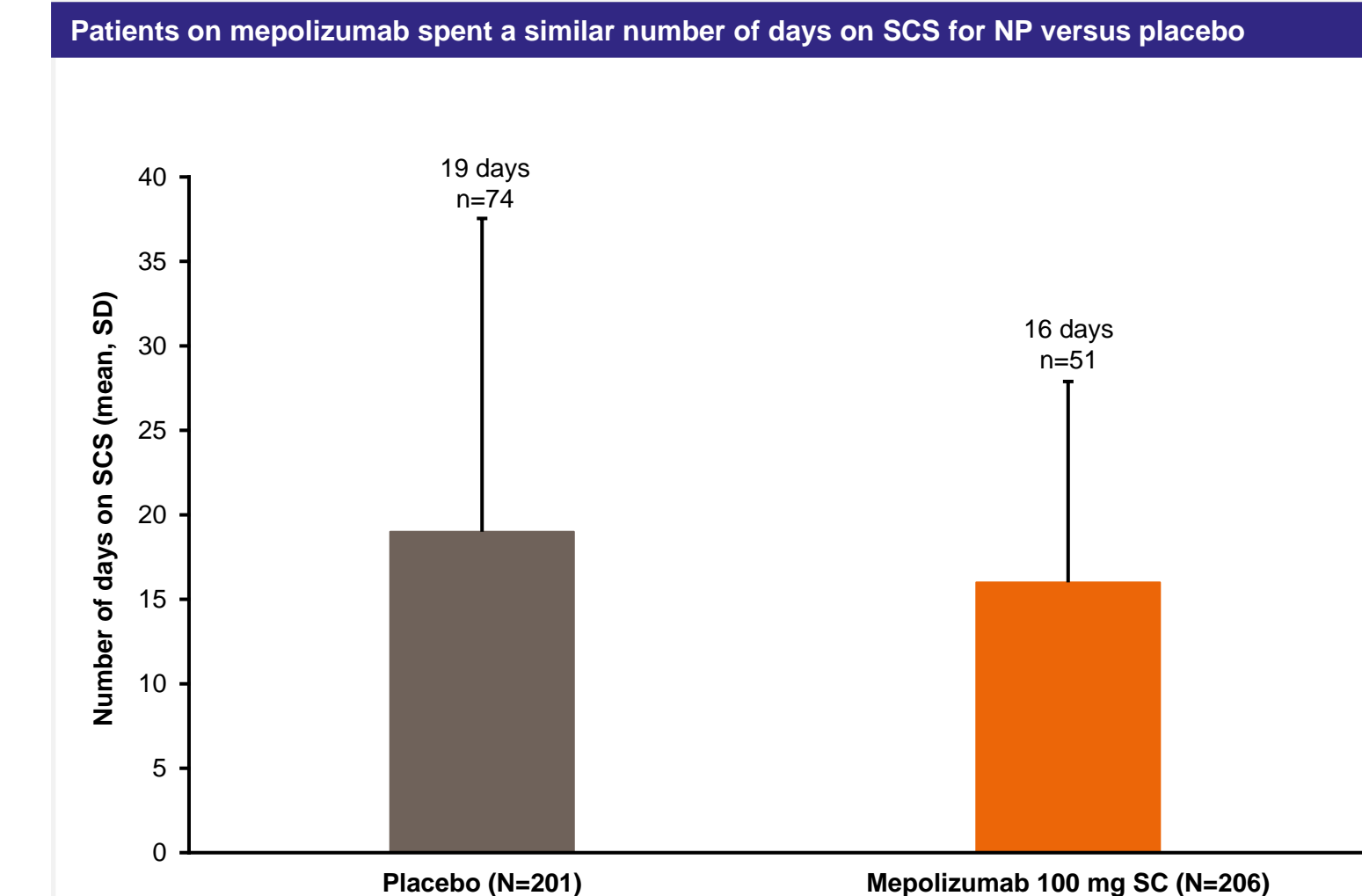


\*Higher scores indicate greater disease severity or worse quality of life; total endoscopic scale 0–8; VAS scale 0–10; †for NP treatment in the previous 12 months; ‡in the previous 10 years.

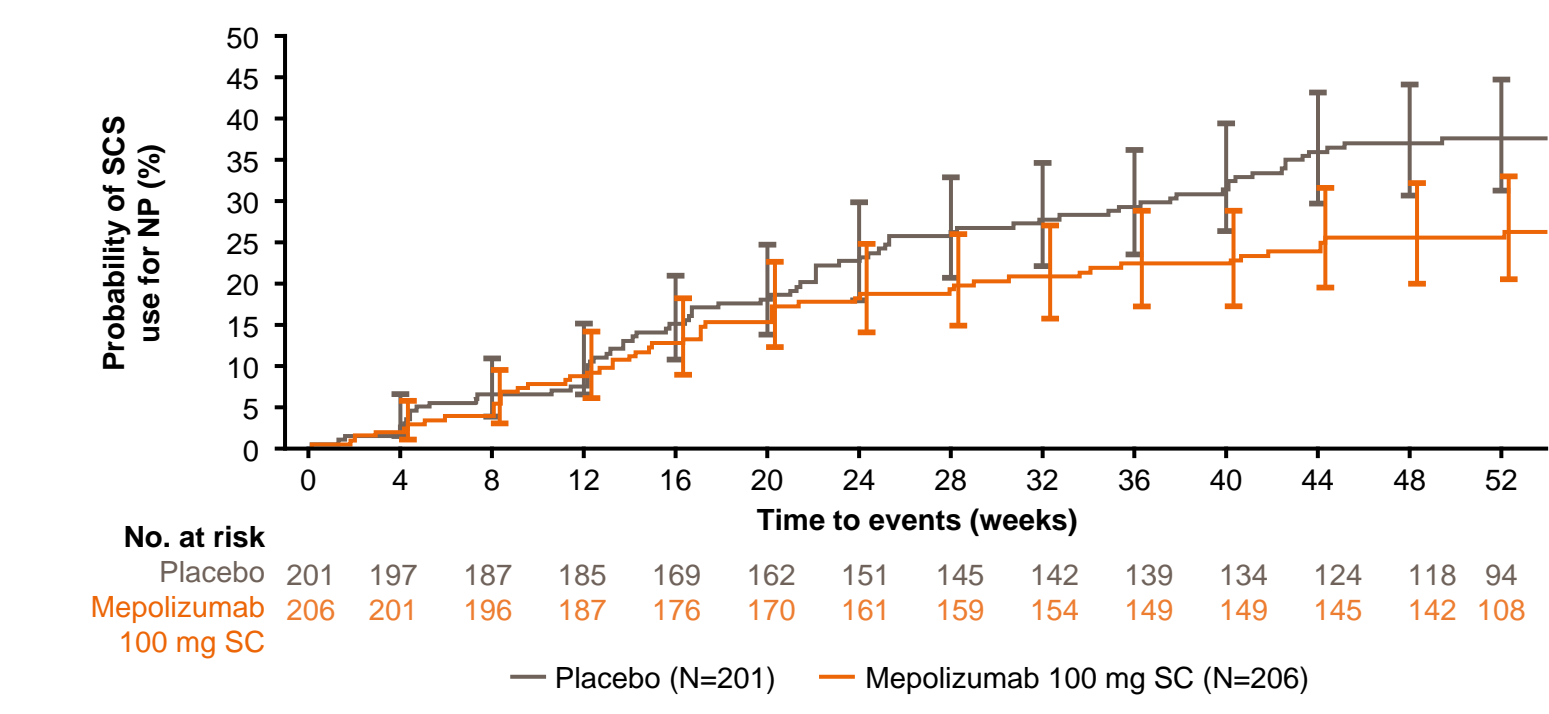
### Patients treated with mepolizumab were 42% less likely to require courses of SCS for NP versus placebo



\*Odds ratio (95% CI) from logistic regression model with covariates of treatment group, geographic region, number of OCS courses for NP in last 12 months (0, 1, >1 as ordinal), baseline total endoscopic score (centrally read), baseline nasal obstruction VAS score, and log<sub>e</sub> baseline blood eosinophil count. Kaplan–Meier estimate; vertical bars represent 95% CI.



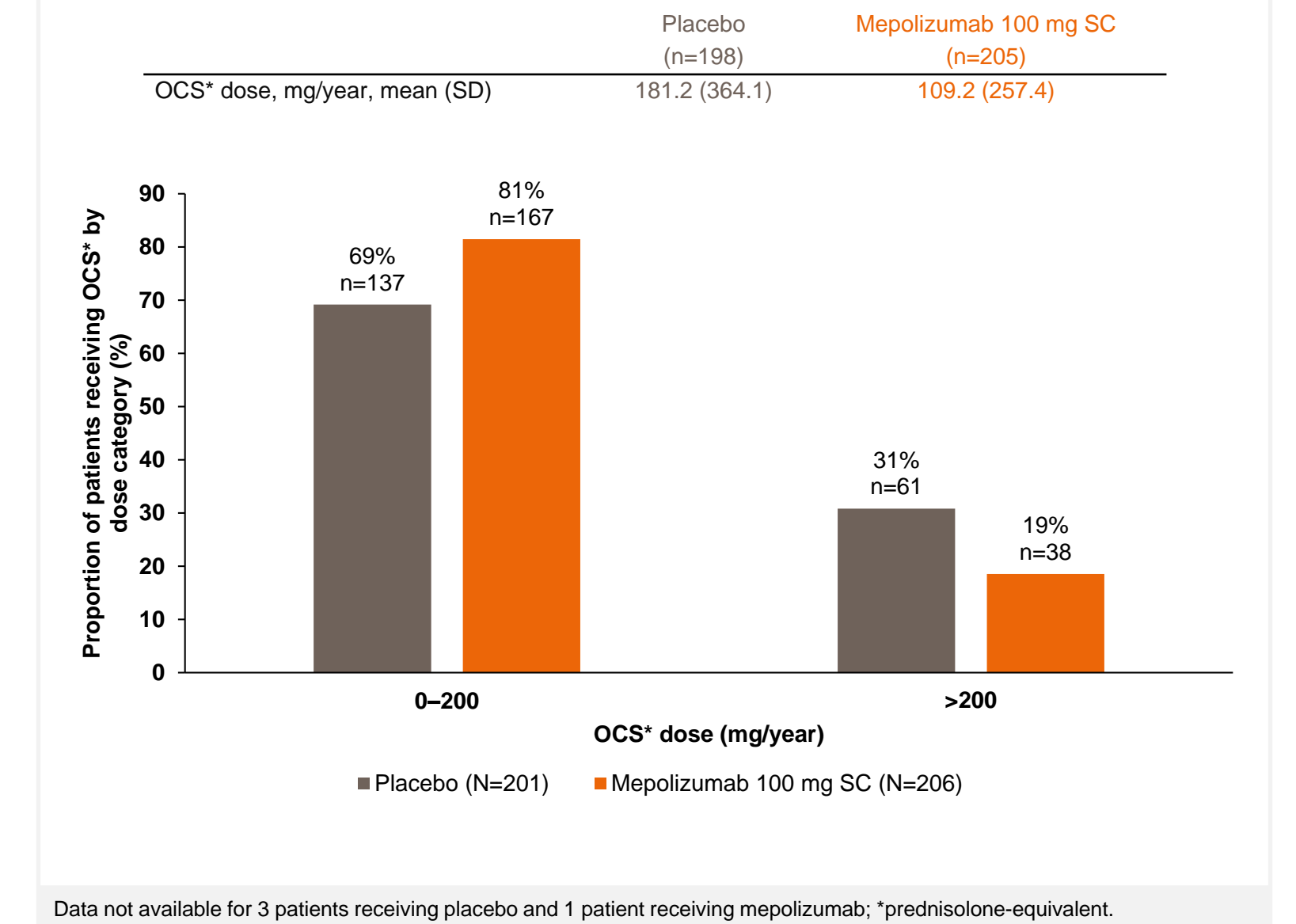
Mean number of days on SCS for patients who received ≥1 course of SCS for NP; median value was 12.5 days for each treatment arm. One patient receiving mepolizumab 100 mg SC with SCS for 335 days was considered an outlier and was excluded from this analysis, as all other patients had used SCS for ≤51 days.



## Conclusions

- The primary analysis of this study confirmed the efficacy of mepolizumab in NP. The results presented here show that fewer patients treated with mepolizumab required ≥1 course of SCS for NP compared with placebo.
- Despite a similar number of days on SCS for NP with mepolizumab and placebo, the total OCS dose was lower with mepolizumab.
- These data support the use of mepolizumab to reduce SCS use in patients with CRSwNP.

Across all patients, mepolizumab treatment was associated with a lower total OCS\* dose and fewer patients received >200 mg/year of OCS\* versus placebo



**Abbreviations**  
CI, confidence interval; CRSwNP, chronic rhinosinusitis with nasal polyps; IL, interleukin; MF, mometasone furoate; NP, nasal polyps; OCS, oral corticosteroid; SC, subcutaneous; SCS, systemic corticosteroids; SD, standard deviation; VAS, visual analog scale.

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  - \*HHK contributed to this study and the parent abstract but was not available to provide feedback on the development of this poster due to competing priorities with the ongoing pandemic.
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