Mepolizumab Improves Health-Related Quality of Life for Patients With Chronic Rhinosinusitis With Nasal Polyps: Data From the SYNAPSE Study

Poster No. 399

Aims

- Chronic rhinosinusitis with nasal polyps (CRSwNP) is a subtype of CRS characterized by chronic inflammation of the paranasal sinuses, leading to sinonasal symptoms and signs, outpours of sinonasal tissue.

- Current standard of care includes intranasal corticosteroids, systemic nasal saline, systemic corticosteroids, and surgical intervention.

- The aim of this randomized controlled trial is to assess the effect of mepolizumab, a monoclonal antibody directed against eosinophil cationic protein, in the treatment of patients with CRSwNP who have failed standard medical therapy.

Methods

- **Randomization**: Patients were randomized 1:1 to receive either subcutaneous mepolizumab (50 mg) or placebo 0.9% saline nasal loadings every 4 weeks for 52 weeks.

- **Outcome Measures**: The primary outcome is change from baseline to Week 52 in SNOT-22 total score (mean change ± SD).

- **Secondary Outcomes**: Includes change in SNOT-22 domain scores, SNOT-22 total score by treatment group, mean change from baseline to Week 52 in non-nasal symptoms (VNRS) score, and mean change from baseline to Week 52 in SNOT-22 non-nasal symptom score.

- **Statistical Analysis**: Analysis was performed using the mixed-effects model for repeated measures, with treatment group, visit, and treatment-by-visit interaction as fixed effects and subject as a random effect.

Results

- **Study Design**: A double-blind, placebo-controlled, randomized, prospective, parallel-group clinical trial.

- **Sample Size**: 214 patients were randomized to receive mepolizumab 50 mg SC or placebo.

- **Primary Endpoint**: Change in SNOT-22 total score at Week 52.

- **Secondary Endpoints**: Change in SNOT-22 domain scores, SNOT-22 total score by treatment group, mean change from baseline to Week 52 in non-nasal symptoms (VNRS) score, and mean change from baseline to Week 52 in SNOT-22 non-nasal symptom score.

- **Statistical Analysis**: Analysis was performed using the mixed-effects model for repeated measures, with treatment group, visit, and treatment-by-visit interaction as fixed effects and subject as a random effect.

Conclusions

- **Significant Improvement**: Mepolizumab demonstrated significant improvement in SNOT-22 total score at Week 52 compared to placebo.

- **Clinical Relevance**: The results support the use of mepolizumab in the treatment of CRSwNP, particularly in patients with persistent eosinophilia.

- **Future Studies**: Further research is needed to explore the long-term efficacy and safety of mepolizumab in CRSwNP.

References
