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**Mepolizumab for treatment of adolescents and adults with eosinophilic oesophagitis - Dellon E, Peterson K, Mitlyng B, et al.**

Dellon E, Peterson K, Mitlyng B, et al. [*Mepolizumab for treatment of adolescents and adults with eosinophilic oesophagitis*](https://gut.bmj.com/content/72/10/1828): a multicentre, randomised, double-blind, placebo-controlled clinical trial Gut 2023; 72: 1828-1837. doi: 10.1136/gutjnl-2023-330337

Eosinophilic oesophagitis (EoE) is a chronic allergic disease characterised by eosinophilic infiltration, resulting in oesophageal dysfunction. Traditional treatments like proton pump inhibitors (PPI) and topical steroids have limitations. This double-blind multicentre trial assessed Mepolizumab, an anti-IL-5 (interleukin-5) monoclonal antibody, for treating active EoE.

Sixty-six patients with PPI non-responsive EoE and dysphagia symptoms, evaluated by the EoE Symptom Activity Index (EEsAI), were enrolled. In the first phase, they were randomised 1:1 to receive mepolizumab 300 mg monthly or placebo for 3 months, with the primary outcome being the change in EEsAI from baseline to 3 months post-treatment. Secondary outcomes included peak eosinophil count, histological response, endoscopic findings, and safety. In the second phase, mepolizumab-treated patients continued their 300 mg monthly regimen, while placebo recipients switched to mepolizumab 100 mg monthly, and assessments were repeated at month 6.

Results showed no statistically significant difference in EEsAI score improvement between Mepolizumab and placebo at 3 months (EEsAI decrease of 15.4 ± 18.1 and 8.3 ± 18, respectively, p=0.14). Mepolizumab significantly reduced peak eosinophil counts and improved endoscopic severity. Extending Mepolizumab treatment to 6 months didn't provide additional benefits. Mepolizumab was generally well-tolerated.

In summary, as a 3-month stand-alone therapy, Mepolizumab did not meet the primary symptom improvement endpoint, but it improved oesophageal eosinophil counts and endoscopic severity. Future studies may explore Mepolizumab in less severe EoE cases, its role in treatment algorithms, and underlying mechanisms for persistent EoE despite IL-5 pathway targeting.