

Efficacy and safety of treatment with biologicals for severe chronic rhinosinusitis with nasal polyps: A systematic review for the EAACI Guidelines

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Abstract

This systematic review evaluates the efficacy and safety of biologicals for chronic rhinosinusitis with nasal polyps (CRSwNP) compared to the standard of care. Pubmed, EMBASE and Cochrane Library were searched for RCTs. Critical and important CRSwNP-related outcomes were considered. The risk of bias and the certainty of the evidence were assessed using GRADE. RCTs evaluated (dupilumab-2, omalizumab-4, mepolizumab-2, reslizumab-1) included 1236 adults, with follow-up 20-64 weeks. Dupilumab reduces the need for surgery (NFS) and oral corticosteroid (OCS) use (RR 0.28; 95%CI 0.20-0.39, moderate certainty) and improves with high certainty smell (mean difference (MD) +10.54; 95%CI +9.24 to +11.84) and quality of life (QoL) (MD -19.14; 95%CI -22.80 to -15.47), with fewer treatment-related adverse events (TAEs) (RR 0.95; 95%CI 0.89-1.02, moderate certainty). Omalizumab reduces NFS (RR 0.85; 95%CI 0.78 to 0.92, high certainty), decreases OCS use (RR 0.38; 95%CI 0.10-1.38, moderate certainty), improves with high certainty smell (MD +3.84; 95%CI +3.64 to +4.04) and QoL (MD -15.65; 95%CI -16.16 to -15.13), with increased TAE (RR 1.73; 95%CI 0.60-5.03, moderate certainty). There is low certainty for mepolizumab reducing NFS (RR 0.78; 95%CI 0.64 to 0.94) and improving QoL (MD -13.3; 95% CI -23.93 to -2.67) and smell (MD +0.7; 95%CI -0.48 to +1.88), with increased TAEs (RR 1.64; 95%CI 0.41-6.50). The evidence for reslizumab is very uncertain.

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