

## Do biologics work for sufferers of chronic rhinosinusitis?

### Clinical Question

Are biologics effective for the treatment of chronic rhinosinusitis?

### Bottom Line

All of the drugs were evaluated in adults with chronic rhinosinusitis and nasal polyps who were also using regular topical nasal steroids. In these patients, the review found high-certainty evidence from three studies (with nearly 800 participants) that dupilumab results in a large improvement in disease-specific health-related quality of life (HRQL) compared to placebo, and a large reduction in the extent of the disease as measured on a computerised tomography (CT) scan. Moderate-certainty evidence shows that it probably also results in a large improvement in symptoms, increases generic HRQL (as measured by overall health status) and results in a large reduction in the size of polyps (as measured by nasal polyp scores). It probably results in a large reduction in the need for further surgery but it is difficult to interpret the clinical implications of this finding due to methodological limitations. There may be little or no difference in the risk of nasopharyngitis.

Mepolizumab has been evaluated in similar patients but the certainty of evidence is either low or very low. It may improve both disease-specific and generic HRQL. It may also improve nasal polyp scores, but the evidence is very uncertain.

The review identified moderate-certainty evidence from two studies that omalizumab probably results in a large improvement in disease-specific HRQL compared to placebo. It may also result in a large reduction in the need for surgery, but the evidence for this was of low certainty.

### Caveat

All but one study recruited patients with moderate to severe chronic rhinosinusitis with nasal polyps and at least half of the participants also had asthma as a comorbidity. Therefore, there is no evidence on whether or not patients with less severe disease (with or without nasal polyposis or asthma) would benefit as much or at all. There is a lack of long-term evidence. Whilst treatment with biologics is arguably a lifetime commitment, there was only one study with a 52-week follow-up, which reduces the ability to determine if the effect size is maintained or if there is a higher risk of side effects in the long-term.

### Context

Chronic rhinosinusitis is common. It is characterised by inflammation of the nasal and sinus linings, nasal blockage, rhinorrhoea, facial pressure/pain and loss of sense of smell. It occurs with or without nasal polyps.

'Biologics' are medicinal products produced by a biological process. Monoclonal antibodies are one type, already evaluated in other inflammatory conditions (e.g. asthma and atopic dermatitis).

### Cochrane Systematic

Chong L-Y, Pirochai P, Sharp S, Snidvongs K, Webster KE, Philpott C, Hopkins C, Burton MJ. Biologics for chronic rhinosinusitis. Cochrane

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**Review** Database of Systematic Reviews 2021, Issue 3. Art. No.: CD013513. DOI: 10.1002/14651858.CD013513.pub3. This review contains 10 trials with a total of 1262 participants.

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Systematic review link:

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013513.pub3/full>