

## For the Patient

The full report is titled “Impact of type 2 targeting biologics on acute exacerbations of chronic rhinosinusitis.” by Gayatri B. Patel, Elizabeth A. Kudlaty, Amina Guo, Chen Yeh, Margaret S. Kim, Caroline P.E. Price, David Conley, Leslie C. Grammer, Ravi Kalhan, Robert C. Kern, Kris G. McGrath, Bruce K. Tan, Sharon R. Rosenberg, Robert P. Schleimer, Stephanie S. Smith, Whitney W. Stevens, Kevin C. Welch, Anju T. Peters. The report appears in the Sep-Oct 2021 issue of *Allergy Asthma Proceedings* (volume 42, pages 417–424)

*For the Patient* is provided to physicians so that the patients can better understand the language of modern medicine.

*For the Patient* is written by the editors (Bellanti, JA and Settignano, RA) and provided to practitioners so that patients can better understand the usefulness of new information resulting from medical research.

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### IMPACT OF TREATMENT WITH BIOLOGICS ON ACUTE EXACERBATIONS OF CHRONIC RHINOSINUSITIS

Chronic rhinosinusitis (CRS) is an inflammatory disease of the nose and sinuses that affects ~6–12% of the general population. Treatment with antibiotics and/or systemic corticosteroids are frequently used to treat acute exacerbations of CRS (AECRS), defined as acute worsening of CRS intensity. Moreover, short-term treatment with oral corticosteroids has been associated with an increased risk of adverse events, including bone fractures and in rare circumstances, venous thromboembolism, a term that refers to blood clots in veins, which, can lead to disability and death. Monoclonal antibodies (biologics) are new forms of therapy for asthma and other allergic diseases, including CRS, that work by blocking specific molecular pathways, which cause these conditions. In a recent report, Patel and co-workers from the Division of Allergy and Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, Illinois, determined the effect of biologics on the frequency of antibiotic and corticosteroid prescriptions for AECRS.

#### Why Did the Researchers Do this Particular Study?

The goal of the study was to determine if treatment with biologics could favorably impact antibiotic and systemic corticosteroid use for AECRS for patients with CRS.

#### Who or What Was Studied?

A total of 165 patients with CRS received one of the anti-inflammatory related biologics, *i.e.*, either omalizumab, mepolizumab, benralizumab, dupilumab, or reslizumab. Of the study subjects, 70% had CRS with nasal polyps, and 30% had CRS without nasal polyps. All the patients had asthma. When the data from all the biologics were combined, the estimated yearly rate for antibiotics for AECRS decreased from 1.34 to 0.68 with biologic use (a 49% reduction;  $p < 0.001$ ). Those with frequent AECRS (three or more courses of antibiotics in the 1 year before biologic use) had a larger degree of reduction.

#### How Was the Study Done?

The estimated yearly rate for antibiotic and corticosteroid courses for AECRS were measured in a retrospective study before and after initiation of biologics.

#### What Were the Limitations of the Study?

The report emanates from a single center, which may have influenced the results. Additional limitations of the study included the retrospective study design and lack of a control group treated without biologics.

#### What Are the Implications of the Study?

The study showed that the use of anti-inflammatory biologics reduced medication use for AECRS. This suggests that biologics may be a therapeutic option for patients with frequent AECRS. Although these results are encouraging and provide some reassurance for patients and health-care providers, future more rigorous studies will be required to corroborate these findings. □