

**CASE**

53 year old white male with refractory chronic rhinosinusitis with nasal polyposis and lower airway obstruction had failed 2.5 years of standard medical and surgical management.

- Absolute Eosinophil Count: 500 cells/mcL
- IgE: 95 IU/mL
- Allergy testing: negative sIgE and SPT panels
- FeNO: 59-162 ppb
- ANCA panel: Negative
- CRP: 0.46 mg/L
- Sputum Cx: Negative

• After FESS, patient developed nasal polyposis. 2 months after starting Benralizumab, nasal polyps were significantly reduced on fiber optic exam.

• On high dose ICS/LABA, FEV1 was fixed at 78%. 1 month after 1<sup>st</sup> benralizumab injection, FEV1 increased to 102%.

• Despite ICS/LABA, intranasal steroids and montelukast, he had daily post-nasal drip and cough. 17 days after first injection, he had no further daily symptoms.

# Prompt Resolution of Chronic Rhinosinusitis with Nasal Polyposis and Chronic Bronchitis After First Dose of Benralizumab

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**ABSTRACT**

**Rationale:** Several mAB therapies are approved for treatment of moderate to severe eosinophilic asthma. Clinical trials investigating their efficacy in chronic rhinosinusitis and nasal polyps are encouraging and continued trials are underway. We present a patient treated with benralizumab for refractory nasal polyps and non-allergic, non-asthmatic chronic respiratory symptoms. His symptoms began after noxious exposure to mold, and were associated with eosinophilic polyp tissue and elevated peripheral eosinophil count. He is a never-smoker, fit and healthy ex-military officer with no history of allergic rhinitis or asthma.

**Methods:** A PubMed review of all articles reporting data on the use of biologic therapies for nasal polyps and chronic rhinosinusitis with or without nasal polyposis was conducted.

**Results:** A 53-year-old man had been aggressively treated with 8 courses of antibiotics, oral and topical steroids, sinus surgery, and ICS/LABA for sudden onset and refractory chronic rhinosinusitis with eventual development of recurrent nasal polyps and fixed airway obstruction over a period of 2.5 years. Following the 1<sup>st</sup> dose of benralizumab his symptoms, nasal polyps, and airway obstruction improved dramatically. Upper airway rhinitis and PND as well as lower airway wheezing resolved within 17 days. After 3 months of treatment his spirometry was unobstructed with normal FEV1 (+24% from baseline), and minimal polyp tissue was visible on endoscopic exam. After 12 months benralizumab therapy was stopped.

**Conclusions:** Physicians should consider a trial of anti-eosinophil mABs in patients with nasal polyps especially if there is evidence of eosinophilic inflammation of the upper or lower airway.