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LONG TERM OMALIZMAB THERAPY IN SEVERE ASTHMA FEMALE PATIENT

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Objective: Introduction: The majority of asthma patients can be effectively treated with currently available medications, but a substantial subset remains who are refractory to treatment. The treatment of severe asthma relies on the maximal optimal usage of corticosteroids and bronchodilators with leucotriene receptor antagonists, xanthines and antihistamines. A monoclonal anti-IgE therapy has led to improvements in outcomes in some patients with allergic severe asthma.

Case report: A 65- year-old severe asthma female patient was diagnosed with asthma at the age of 20 years. She was a non-obese ex-smoker (15 pack years) with several comorbidities, including osteoporosis. In the 42 years of a detailed follow-up, she has had more than 30 moderate to severe exacerbations, including 7 hospitalizations and one intubation. The total IgE was elevated (229-402 kU/L), and specific IgE was 0.39 and 1.47 kU/L for *Dermatophagoides pteronyssinus*, *Blattella germanica* and *Aspergillus fumigatus* respectively with eosinophilic predomination in the sputum and blood (13.4%). The HRCT scan showed tractional bronchiectasis, especially apically with a cavity in the left lung apex. The estimated emphysema distribution was 17.0% on the left and 22.2% on the right side. Such non-common severe asthma phenotype with emphysema has so far been associated

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mainly with COPD and smoking. Spirometry showed severe obstruction (FEV_1 -37%; FEV_1/FVC -0.43) and mild restriction (FVC -82%) with positive reversibility test (+150 ml; +20.9%). A moderate lung diffusion impairment ($DLCO$ -64%) and severe airway resistance (R_{aw} -2.44kPaL/s) were present with lung hyperinflation (RV 196%; TLC 120.6%). The therapy consisted of inhaled budesonide/formoterol (1 280 mcg of budesonide daily) and oral prednisone 5 mg daily with tiotropium bromide, theophylline, and montelukast in maximal daily doses and salbutamol/ipratropium inhalations at least 3 times daily. Despite extensive therapy, the patient had constantly low asthma control test (ACT) scores. Treatment with omalizumab (450 mcg sc. monthly) was introduced 9/2015. The result was a marked reduction in the yearly number of exacerbations and higher ACT scores (little better than before omalizumab). The oral corticosteroid could still not be discontinued but was reduced to 5 mg every other day. Spirometry test results showed a decrease in the obstruction (FEV_1 52%, FEV_1/FVC 47%) and disappearance of restriction (FVC 90%) with negative reversibility test and sputum neutrophilia.

Conclusion: The evolution of severe asthma phenotyping has been substantial. Progress in this field will allow better diagnosis and targeted treatment. Our goal was to present a patient on omalizumab with improved quality of life and improved overall asthma control.