A Refractory Case of Severely Uncontrolled Eosinophilic Asthma on Maximal Therapy

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LEARNING OBJECTIVES
• Identify biologic treatments for asthma refractory to traditional treatments
• Recognize the health care burden of severe, persistent asthma to patients and the U.S. health care system

INTRODUCTION
• Severe, persistent asthma represents a significant portion of morbidity and health care expenditure in the United States due to frequent emergency department visits for asthma exacerbation
• Treatment for asthma exacerbation includes oral steroids, which may have deleterious long-term effects on patients
• Biologic agents such as Mepolizumab or Benralizumab may be considered for improved daily control of severe, persistent asthma

CASE PRESENTATION
66-year-old female with a history of severe persistent asthma, GERD, and hypothyroidism presents with persistent wheezing and dyspnea on exertion.
• Uses albuterol multiple times daily with frequent night time awakenings
• Daily asthma medications include fluticasone-salmeterol, tiotropium, montelukast, theophylline, fluticasone propionate, cetirizine
• FEV1/FVC ratio of 68% pre-bronchodilator and 71% post-bronchodilator
• Eosinophils 14%, Absolute eosinophils 1.2 thou/cmm
• Bronchial thermoplasty was denied by insurance
• Mepolizumab or benralizumab are being considered after patient qualifies for Medicare

MECHANISM OF ACTION
• Benralizumab binds IL5 receptors on eosinophils and recruits natural killer cells to destroy the eosinophils

FOLLOW UP
• Patient has started Benralizumab 30 mg/ml injections every 3 months with significant improvement in symptoms
• Less wheezing, less chest tightness, no nocturnal symptoms, improved exercise tolerance
• No need for oral prednisone
• Considering weaning of theophylline and fluticasone propionate

TAKE HOME POINTS
• Biologic treatments such as benralizumab may be helpful in lowering the burden of severe, persistent asthma for patients and the health care system
• Insurance coverage of biologic agents may influence the decision making process for patients and physicians

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