upper gastrointestinal endoscopy (UGE), 24-hour pH monitoring and manometry. Many patients also present chronic posterior laryngitis in fibronasolaryngoscopy (FNL). The objective of the present study was to evaluate the diagnosis of esophagitis, by FNL and UGE in patients with chronic cough.
Methods: Patients followed up for chronic cough, over 18 years of age, were asked about the presence of GERD symptoms and submitted to the FNL and UGE, some of them with esophageal biopsy.
Results: Fifty-one patients participated in the study. The average age was 56.8 years (±13.2 years), 90.2% were female and the average duration of cough, 12.2 years (±14.9 years). Of these, 46 (90.2%) had dyspepsia, and partial or complete improvement of symptoms of cough with proton pump inhibitor. Of the 46 symptomatic patients, only 18 (39.1%) had esophagitis on UGE; however, 36 patients (78.3%) had posterior laryngitis on FNL. Seventeen patients also underwent esophageal biopsy, and 15 examinations identified esophagitis. Nine (60%) of these patients had only posterior laryngitis on the FNL (UGE without esophagitis).
Conclusions: Fibronasolaryngoscopy was more sensitivity than upper gastrointestinal endoscopy to confirm gastroesophageal reflux disease. Although the indication for biopsy of esophagus follows standardized criteria, this study suggests that in patients with chronic cough, if there is an indication for the performance of UGE, it would be interesting to complement with biopsy of the esophagus.

316
Botox Injections in Larynx as a Treatment for Vocal Cord Dysfunction

Juan Esteban Perez, Thanai Pongdee, MD, and Juan Guarderas, MD. *Allergy and Pulmonary Medicine, Mayo Clinic, Jacksonville, FL.*
Background: Vocal Cord Dysfunction (VCD) is a respiratory condition in which vocal cords restrict airflow by closing during inspiration. Symptoms include shortness of breath, coughing, chest tightness and wheezing. These symptoms are commonly reduced with breathing exercises to relax the chest and throat. VCD is often misdiagnosed as asthma and treated as such. Studies have shown that steroids used to treat asthma are not beneficial in the treatment of VCD, and are therefore unnecessary. Recent studies suggest that Botox injections to relax the thyroarythenoid muscles surrounding vocal cords resulting in an improvement in the patient's airflow.
Methods: We followed a 56-year-old female patient over the course of a year who had a history of upper espiratory infections, sinusitis, allergic rhinitis and asthma reporting an increase in the severity of respiratory symptoms even though successfully undergoing immunotherapy treatment and following a regimen of asthma medication. Her symptoms included shortness of breath, wheezing and trouble sleeping.
Results: Pulmonary function testing done elsewhere revealed that the patient had a reduced lung capacity. After a consult with a speech pathologist, VCD and Spastic Dysphonia (SD) were diagnosed. The symptoms where initially treated with speech therapy. Four months later the patient noted a slight improvement in her symptoms, but also attributed this to the fact that she had developed behavioral ways to cope with symptoms. The possibility of Botox injections was mentioned and the patient agreed to follow with this treatment. Two 2.5 unit injections of Botox were administered in the thyroarythenoid muscles via an EMG guided needle, without any complications. The results from the procedure were very favorable. All her symptoms improved significantly. Lung function tests appeared normal, and she was able to reduce the use of most asthma control medications. She received another dose of Botox injections 6 months following the first, and continues to do very well.
Conclusions: Botox injections in the thyroarythenoid muscles are a successful treatment option for VCD patients with dysphonia. With this treatment patients are able to minimize respiratory symptoms and inhaled steroid use. A larger, randomized study with patients diagnosed with VCD alone should be considered.

317
Myasthenia Gravis and Asthma, Relationship between Two Different Disorders of the Immune System

Andrea Aida Velasco-Medina,MD, Adriana Barreto-Sosa, MD, Aida Gonzalez-Carsolio, MD, Andres-Leonardo Burbano-Ceron,MD, and Guillermo Velázquez-Sámano, MD. *Servicio de Alergia e Inmunología Clínica, Hospital General de México, Mexico City, Mexico.*
Background: Myasthenia gravis is an autoimmune disease caused by absence of neuromuscular transmission due to antibodies directed against the nicotinic AChR located at the neuromuscular junction. The main symptoms include muscle weakness in the affected muscles, which is worse after its use. Diagnosis is made upon clinical manifestations and finding of IgG. Only 80 to 90% of patients with generalized disease are positive to these antibodies, and 30 to 50% with ophthalmologic manifestations. Other immunological alteration found in these patients is an overexpression of the low affinity IgE receptor (CD23). Asthma is characterized by shortness of breath, cough, wheezing and chest tightness caused by inflammation and a reversible contraction of bronchial smooth muscle. Immunologically is associated with a Th2 cytokine profile, mainly Il-4, Il-5, Il-13 and an increased IgE.
Methods: Allergic and autoimmune diseases represent an altered response of the immune system. Here we discuss the case of a patient who presented with an allergic disease at first then years later developed an autoimmune disease.
Results: Our patient had been diagnosed with persistent allergic rhinitis and asthma since 1992. He had been treated with inhaled corticosteroids, bronchodilators, intranasal corticosteroids, antihistamines and specific immunotherapy with control of symptoms. In June 2010 he noticed diplopia, palpebral ptosis and muscle weakness in upper extremities diagnosed with Myastenia gravis and started treatment with piridostigmine with adequate control of muscular symptoms. No thymoma was identified.
Conclusions: It has been noted the possible relationship between allergic and autoimmune diseases since in both there is an alteration in the regulatory mechanisms of the immune system. In this patient, we found the association between asthma and 19 years later the development of myasthenia gravis. Some of the explanations for this kind of association is the expression of CD23 in myasthenia gravis, which is a receptor found in B cells, among others, responsible of the increased production of IgE. Besides, autoimmune and allergic diseases share some pathogenic characteristics such as their influence by viral infections. They are one of the main factors associated with asthma exacerbations and it is suggested that they cause tissue damage, exposure to self-antigens and molecular mimicry.

318
Immunological Characteristics of Patients with Bronchial Asthma and Obesity

Anna Konischeva, Valentina Gervazieva, MD, and Ekaterina Lavrentyeva. *Mechnickov Research Institute for Vaccines and Sera, Moscow, Russia.*
Background: The problem of obesity-related diseases is current and worldwide increasing. We aimed to estimate the relationship between obesity, it's biomarkers and immunological features of bronchial asthma (BA) in obese patients as compared to healthy people with different BMI.
Methods: Body mass index (BMI) was evaluated in 57 adult patients with atopic BA, 23 patients with allergic rhinitis (AR) and 25 healthy people. Spontaneous production of TNF-α and IL-4 from blood lymphocytes and levels of C reactive protein (CRP), total IgE and leptine were detected in serum samples using ELISA kits. Levels of IgE- autoAbs to keratin, III and VI collagen types and elastin that showed association with BA severity in our previous data were also measured by ELISA.
Results: Atopic patients with BMI > 30 kg/m(2) in groups with AR and with BA had elevated levels of C-reactive protein (744 ± 28 ng/mL) and high spontaneous production of TNF-α (45 ± 4 ng/mL) and IL-4 (9.5 ± 2.8 ng/mL) in comparison with normal-weight patients and healthy (7.3 ± 2.7

