Case Description: A 66-year-old female with a history of chronic idiopathic urticaria (CIU), presented for evaluation of hives. She was diagnosed with CIU in 2004, treated with cyclosporin from 2004-2010. Since 2010, she has intermittent localized urticaria controlled on PRN OTC antihistamines. She received the second Moderna dose on 1/28/2021 and developed angioedema and hives on day 5. Compared to prior, the hives were worse in severity, duration and frequency. They caused a painful burning sensation and left an imprint of discoloration and bruising, which would take a week to resolve. Various regimens of high dose antihistamines, H2 blockers, and LTRAs were unsuccessful. She improved on steroids. Her labs showed an elevated CRP (1.6 - normal <0.8 mg/dL), normal ESR and C4. Skin biopsy pathology from March 2021, was consistent with UV. She was initially started on colchicine but was transitioned to hydroxychloroquine 200 mg QD, due to side effects. She continued to maintain remission. She self-discontinued hydroxychloroquine in May 2021. She continued cetirizine 10 mg BID, montelukast 10 mg QD and hydroxyzine 25 mg QD prn. She has not reported recurrence since.

Discussion: The underlying mechanism of UV is hypothesized to be immune complex mediated. UV can be triggered by viral infections and there are case reports of other vaccination related UV (H1N1, BCG and meningococcal).

Rhinitis, Other Upper Airway Disorders

M285

EXERCISE-INDUCED LARYNGOPHARYNGEAL REFUX (EILPR)
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Introduction: Exercise-induced airway syndromes have overlapping symptoms. Exercise nasopharyngolaryngoscopy (NPL) can help distinguish amongst them.

Case Description: 27 year-old female with eosinophilic esophagitis (EoE), omeprazole-controlled GERD, allergic rhinitis, and childhood asthma presented with exercise-induced wheezing, throat/chest tightness, throat burning, and shortness of breath (SOB) refractory to pre-exercise short-acting bronchodilator (SABA). She had no exercise-induced hives, angioedema, presyncope or abdominal pain. Physical exam was normal. Diagnostic studies included: positive skin tests to cats, dogs, pollen and mold, but negative to foods. Labs revealed positive methacholine challenge. Pre-exercise challenge showed normal EKG, spirometry and NPL (Figure 1a). She exercised according to a modified Bruce Protocol for >8 minutes and developed SOB, chest/throat tightness, and throat burning without heartbeat or voice changes. Post-exercise spirometry revealed a 7% drop in FEV1 without EKG changes. NPL showed erythema in the posterior commissure, edema in posterior pharyngeal wall with edematous vocal cords with normal cord movement on inspiration/expiration (Figure 1b). Chest tightness and SOB responded to SABA. Liquid antacids failed to immediately resolve throat burning/tightness. All symptoms cleared within 30 minutes post-exercise. She was diagnosed with exercise-induced laryngopharyngeal reflex (EILPR) and exercise-induced broncho-constriction (EIB). Treatment included: exercising on 2-hour fast, limited pre-exercise hydration, daily high-dose omeprazole and SABA and omeprazole 30 minutes pre-exercise.

Conclusion: EILPR caused acute respiratory distress with throat burning/tightness. This is the first case in the Allergy/Immunology literature of EILPR provoked by exercise challenge. Successful treatment included reducing reflux during exercise with dietary modifications and taking PPI and SABA 30 minutes prior to exercise.

M290

RECALCITRANT RHINOSINUSITIS ASSOCIATED WITH PRIMARY HYPERALDOSTERONISM
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Introduction: When patients with rhinosinusitis do not respond to conventional anti-allergy and -infection therapy, one needs to search for unusual causes.

Case Description: A 41-year-old female with history of allergic rhinitis and recurrent sinusitis since her teens with increasing symptoms for the last 12 months despite having been treated with nasal steroid, montelukast, and antihistamines, and additionally with omalizumab and allergy immunotherapy for the previous 6 months. The complaints included nasal congestion, rhinorrhea, maxillary pressure, cough, wheezing, and dyspnea. Initial allergy skin tests showed strong reactions to environmental allergens with IgE =246 IU/mL. IgG, A, & M levels, T/B, NK, and pneumococcal vaccine response were normal. Sinus CT scan revealed opacification of maxillary and ethmoid sinuses. Despite repeated antibiotics treatment (Augmentin and azithromycin> 3 weeks ), the symptoms have worsened with increasing cough, sinus pressure and lethargy, with additional dizzy spells. Lab studies demonstrated a normal glucose and profound hypokalemia (2.6 mmol/L ). Endocrine studies showed decreased renin (0.12 ng/mL/hour), elevated aldosterone/PRA ratio (116.7ng/dl per ug/l/h), mildly elevated cortisol (56.9 mcg/dl). MRI and pathological studies confirmed an adenoma of her left adrenal gland. Post surgically her potassium normalized and her sinus symptoms have abated.

Discussion: In our patient, the symptoms of hyperaldosteronism overlapped partially with the symptoms of sinusitis: lethargy, dizziness, and sinus pressure. Comprehensive laboratory test revealed hypokalemia, which led to the diagnosis of primary hyperaldosteronism. Surgical removal of the left adrenal adenoma resulted not only in the normalization of her hypokalemia, but also in the resolution of her sinus symptoms.

M291

THE NOSE KNOWS: SINONASAL SARCOIDOSIS PRESENTING AS ISOLATED CHRONIC NASAL CONGESTION REFRACTORY TO STANDARD THERAPIES
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Introduction: Sinonasal sarcoidosis is rare, affecting only about 3% of patients with sarcoidosis, and may be difficult to identify without routine use of rhinoscopy. Typically, the presence of symptoms at extra-nasal sites leads to initial consideration of this diagnosis.

Discussion: In our patient, the symptoms of sinus congestion overlapped partially with the symptoms of sarcoidosis: lethargy, dizziness, and sinus pressure. Comprehensive laboratory test revealed hypokalemia, which led to the diagnosis of primary hyperaldosteronism. Surgical removal of the left adrenal adenoma resulted not only in the normalization of her hypokalemia, but also in the resolution of her sinus symptoms.