Bilateral Mucopyocele of the Torus Tubarius Presenting as Headache

Cystic lesions of the nasopharynx are typically asymptomatic and are often discovered incidentally with imaging or endoscopic examination. The etiology of these lesions can be either congenital or acquired. Acquired lesions, such as mucoceles, salivary duct cysts, oncocytic (Warthin) cysts, intradendroid cysts, and abscesses, occur throughout the nasopharynx and are associated with local trauma, such as surgery, radiation, or neoplastic or infectious processes.\(^1\) Given their natural history, bilateral acquired lesions are an exceedingly uncommon presentation.\(^2\)

Mucoceles are mucus-filled pseudocysts commonly occurring in the oral cavity, including the buccal mucosa, lips, and tongue. The pathophysiologic mechanism relates to trauma of minor salivary glands allowing extravasation of mucus and subsequent cyst formation.\(^3\) When infected by pathogens, mucoceles are referred to as mucopyoceles.\(^4\)

Untreated mucopyoceles can erode soft tissue and bone and extend into adjacent cavities. Critical structures, such as the brain and orbit, are separated from the sinuses by only a thin layer of mucosa and bone. For this reason, in patients with sinonasal mucopyocele, surgical treatment is indicated to avoid the potentially catastrophic sequelae, including spontaneous cerebrospinal fluid rhinorrhea, orbital, and intracranial infections.\(^4\) To our knowledge, there have been no reported cases of bilateral mucopyoceles of the nasopharynx.

Herein, we describe the unusual presentation and clinical course of a patient with refractory headaches with incidental bilateral nasopharyngeal cysts, appearing to arise from the torus tubarius on brain magnetic resonance imaging (MRI), later confirmed to be mucopyoceles.

**Report of a Case** | A male veteran in his 40s with a history of post-traumatic stress disorder, traumatic brain injury, and chronic headaches presented to our clinic for evaluation after an MRI ordered for neuropsychiatric evaluation showed bilateral nasopharyngeal lesions (Figure 1) with restricted diffusion on the diffusion weighted sequence. At presentation, the patient reported tension-like headaches for several months, unrelied by medical treatment. The patient had undergone a ton-

---

**Figure 1. Bilateral Nasopharyngeal Lesions Shown on T2-Weighted Axial Noncontrast Magnetic Resonance Imaging**

R.L. Arrowheads indicate the lesions.

**Figure 2. Intraoperative Endoscopic View of the Right Nasopharynx**

A, Endoscopic view of the right nasopharynx and an enlarged, cystic-appearing torus tubarius (TT). B, Suction is placed in the eustachian tube orifice. C, Draining purulence after biopsy was obtained. ETO indicates eustachian tube orifice; FoR, fossa of Rosenmüller; NP, nasopharynx.
Aria Jafari, MD  
Joseph Acevedo, BS  
Marc Lebovits, MD

Discussion | Nasopharyngeal cysts are a relatively common incidental finding on MRI. In a recent review of 3000 randomized MRI scans, 14% of patients showed evidence of nasopharyngeal cysts. However, the clinical significance and criteria for intervention for incidental nasopharyngeal lesions are not well established.

We present a rare case of bilateral nasopharyngeal mucopyoceles discovered on MRI in a patient with chronic headache. The patient endorsed resolution of symptoms following incision, drainage, and marsupialization of the lesions and antibiotic treatment.

We suspect it is possible that even subtle infectious pathologic abnormalities can trigger a similar inflammatory pathway as described herein for rhinogenic pain and manifest as chronic refractory headache. Therefore, in instances of headache refractory to medical treatment, patients should undergo a complete head and neck examination including endoscopy and imaging studies, which may indicate an occult process. Incidental sinonasal abnormalities, like mucopyoceles, may be clinically significant and warrant further evaluation and treatment.

Aria Jafari, MD  
Joseph Acevedo, BS  
Marc Lebovits, MD

Copyright 2016 American Medical Association. All rights reserved.