OBSERVATION

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, intra-adenoid cysts, and abscesses, occur throughout the nasopharynx and are associated with local trauma, such as surgery, radiation, or neoplastic or infectious processes. Given their natural history, bilateral acquired lesions are an exceedingly uncommon presentation.

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 mucin and subsequent cyst formation. When infected by pathogens, mucoceles are referred to as mucopyoceles.

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. 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...
silectomy and adenoidectomy in childhood and had not experienced any sinonasal symptoms, radiation exposure, or trauma.

Findings from a head and neck examination, including flexible nasopharyngolaryngoscopy, showed bilateral fullness of the nasopharynx. The submucosal lesions appeared to be within the torus tubairi (Figure 2). The differential diagnoses included mucocele, mucopyocele, adenoidal hypertrophy, and a malignant lesion.

The patient was subsequently taken to the operating room, where endoscopic biopsies revealed cystic lesions filled with purulence (Figure 2). Suspecting bilateral mucopyocele, the lesions were marsupialized using microdebrider. Results from cultures, pathologic examination, and flow cytometry studies were sent for evaluation. The pathology report revealed benign respiratory mucosa with reactive lymphoid hyperplasia and mild chronic inflammation. Cultures grew Staphylococcus lugdunensis, consistent with a diagnosis of mucopyocele. On discharge, the patient was prescribed nasal saline irrigation and a 10-day course of sulfamethoxazole and trimethoprim. At the 6-week follow-up, he reported resolution of his headache symptoms, and the operative site was noted to be healing well.

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 mucopyocele, may be clinically significant and warrant further evaluation and treatment.

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

Conflict of Interest Disclosures: None reported.

Funding/Support: The project described herein was partially supported by the National Institutes of Health (NIH), grant TL1TR001443.

Role of the Funder/Sponsor: The NIH had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

Previous Presentation: This study was a poster presentation to the American Rhinologic Society at the annual American Academy of Otolaryngology–Head and Neck Surgery Foundation Meeting; September 25, 2015; Dallas, Texas (Abstract 1266).


Caution Against Overinvestigation of Small Thyroid Nodules

To the Editor A recent study by Magister et al1 aimed to determine whether thyroid nodule size affected fine-needle aspiration biopsy (FNAB) results and determined malignancy rates in each Bethesda class. The authors1 found that nodules smaller than 2 cm had increased probability of malignancy irrespective of the Bethesda class and stated, “our data would suggest that smaller thyroid nodules, as opposed to larger thyroid nodules, pose a relatively increased risk of malignant disease and should be viewed with caution.” We are concerned that these results can be misleading to readers and fuel the problem of overinvestigation of thyroid nodules and overdiagnosis of thyroid cancer.

By studying a cohort of patients who had both FNAB and thyroidectomy, Magister et al2 obtained results that are biased to have a higher malignancy rate in smaller nodules. This is because recommendations for biopsy require smaller nodules to have more suspicious sonographic features than larger nodules. For example, the Society of Radiologists in Ultrasound recommends biopsy for solid nodules 1.5 cm or greater, but the size cutoff is 1 cm for nodules with additional findings of microcalcifications, and there is no size cutoff for nodules with associated suspicious lymph nodes.2 The rationale for a size cutoff is not because size predicts malignancy, as suggested by Magister et al,1 but because size affects prognosis if the nodule is malignant. The cohort of Magister et al2 included a biased sample of small thyroid nodules with additional suspicious features, and the standard group of larger thyroid nodules. These results cannot be generalized to patients who receive thyroid ultrasonography in clinical practice.

Conflict of Interest Disclosures: None reported.

Funding/Support: The project described herein was partially supported by the National Institutes of Health (NIH), grant TL1TR001443.

Role of the Funder/Sponsor: The NIH had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

Previous Presentation: This study was a poster presentation to the American Rhinologic Society at the annual American Academy of Otolaryngology–Head and Neck Surgery Foundation Meeting; September 25, 2015; Dallas, Texas (Abstract 1266).
