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CLINICAL VIGNETTE

Case Report of Eagles Syndrome

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A 71-year-old male with a history significant for tobacco use, COPD stable on home oxygen, hyperlipidemia and essential hypertension presented for evaluation of sore throat and ear pain.

His past surgical history included tonsillectomy at the age of seven but no other surgeries. The patient denied prior ear infections or ear discharge. He denied fever, chills, night sweats, neck swelling, lymph node enlargement, hearing loss, tinnitus, post-nasal drip, allergies or sinus infections. He also denied gastro-esophageal reflux disease or any problems with swallowing. The patient also denied recent unintentional weight loss, change in appetite or bloody expectoration.

He was initially treated with amoxicillin for seven days and then another course of antibiotic therapy with amoxicillin/clavulenate for additional 10 days with no improvement of symptoms.

The patient reported the ear pain was a shooting sensation which was usually worse in the mornings, and occasionally was accompanied by an intermittent “whooshing” noise in his left ear. He did not notice any improvement or worsening of the pain with changing positions or any other obvious triggering or alleviating factors.

His symptoms were also associated with left-sided sore throat that worsened with swallowing. The severity of the pain would vary from 2-3/10 at baseline, and was about 8/10 with swallowing. On physical exam, the patient had exquisitely tenderness at the left styloid process when palpated intraorally, as well as mild temporomandibular joint tenderness. His tympanic membranes were clear without any deformity, redness or swelling. No lesions were noted on soft and hard palate or mucosa. There was no lymphadenopathy noted in the neck, tenderness on palpation of the cervical spine or any other visible abnormal findings.

Due to concern for head and neck malignancy in this patient with persistent neck pain, a CT scan was performed which showed the styloid process was longer on the left side, measuring approximately 3.7 cm. The CT scan also demonstrated asymmetry with the left longer than right styloid and mastoid processes. There were no neoplastic lesions.

He was evaluated by ENT, who felt that these findings were consistent with Eagle's Syndrome, also known as stylo-hyoid syndrome, with noted stylo-hyoid ligament calcification.

Discussion

The styloid process in adults is about 2.5 cm long with its tip located between the external and internal carotid arteries, lateral to the tonsillar fossa.¹

Eagle's syndrome is rare and caused by an elongated temporal styloid process or calcified stylo-hyoid ligament that comes in contact with the nearby structures causing ipsilateral ear pain, dysphagia, foreign body sensation in the throat, pain along the carotid artery and other nonspecific symptoms.²

This condition was first described by Eagle in 1937 and clinically divided into two subtypes of “classic” and “stylo-carotid” syndromes. It is usually noted post tonsillectomy or after trauma.³

Symptoms are usually unilateral, but rare cases of bilateral syndrome have been reported.⁴

Presentation of Eagle's Syndrome depends on the underlying causal mechanism when the styloid process compresses or irritates the neighboring structures. The symptoms vary from cervico-facial pain to cerebral ischemia.⁵

Digital palpation of the styloid process in the tonsillar fossa is diagnostic followed by resolution of symptoms after anesthetic injection into the tonsillar fossa.^{1,2}

CT scan with 3D reconstruction shows the elongated styloid processes with mass effect on the nearby structures. Imaging can be useful in guiding further surgical options and their approach.⁴

The primary treatment of Eagle's syndrome is surgical, in which the styloid process is shortened intra-orally or externally.^{1,3}

However, more non-invasive and non-surgical options for symptom control include conservative management with oral medications including gabapentin or anti-inflammatory options such as non-steroidal anti-inflammatory. In refractory cases

intra-oral injections with steroid and lidocaine or neuropathic resection can be considered as well.

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