

EAGLE'S SYNDROME: A RARE CASE REPORT

Ambreen Ibrahim, Muhammad Kashif Shazlee, Jaideep Darira, Insia Ali, Sara Zafar, Allah Rasan

Department of Radiology, Ziauddin Hospital, Karachi, Pakistan.

PJR July - September 2017; 27(3): 279-281

ABSTRACT

Eagle syndrome is a collection of symptoms that includes recurrent throat pain, foreign body sensation, dysphagia, and/or facial pain as a direct result of an elongated styloid process or calcified stylohyoid ligament. Although approximately 4% of the population is thought to have an elongated styloid process, only a small percentage (between 4% and 10.3%) of this group is thought to actually be symptomatic. Here we are presenting case of Eagle's syndrome in a 52-year-old man presented at ENT clinic complaining of dysphagia that he had experienced continuously for slightly more than a year. His history was uneventful for any significant trauma.

During the physical examination, a hard mass was felt on palpation of the right tonsillar fossa, and radiographic studies were ordered. CT was done showing ossified styloid process including definition of the relationship of calcifications to surrounding neck soft tissue structures on both sides of neck the thick calcified process extended from the stylomastoid foramen to the hyoid bone.

Introduction

Eagle syndrome is a group of symptoms caused by an elongated ossified styloid process, the cause of which remains unclear. This is a rare finding that often goes undetected in the absence of radiographic studies. In this case, we present the diagnostic CT findings of a 52-year-old man with clinical evidence of Eagle syndrome.

Eagle syndrome can occur unilaterally or bilaterally and most often results in symptoms of dysphagia, headache, pain on rotation of the neck, pain on extension of the tongue, change in voice, and a sensation of hypersalivation.^{1,2} Here we present rare and diagnostic radiographic evidence of this on CT scan.

Case Report

A 52-year-old man presented at ENT Clinic complaining of dysphagia that he had experienced continuously for slightly more than a year. His history was

uneventful for any significant trauma.

During the physical examination, a hard mass was felt on palpation of the right tonsillar fossa, and radiographic studies were ordered. CT was done showing ossified styloid process including definition of the relationship of calcifications to surrounding neck soft tissue structures (Fig. 1) on both sides of neck the thick calcified process extended from the stylomastoid foramen to the hyoid bone. (Fig. 2)



Figure 1: CTscan head coronal section showing elongation of styloid process bilaterally more so on right side. Findings are suggestive of Eagle's syndrome.

Correspondence : Dr. Ambreen Ibrahim
Department of Radiology,
Ziauddin Hospital,
Karachi, Pakistan.
Email: ambijm_86@hotmail.com

Submitted 3 January 2017, Accepted 28 March 2017

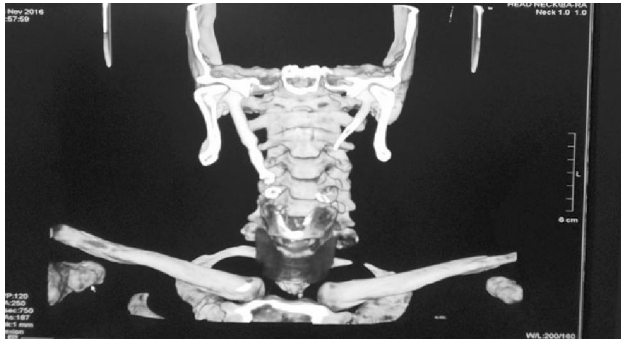


Figure 2: CT scan 3d reconstruction image showing bilateral elongation of styloid process representing Eagle's syndrome.

Discussion

Eagle syndrome is a collection of symptoms that includes recurrent throat pain, foreign body sensation, dysphagia, and/or facial pain as a direct result of an elongated styloid process or calcified stylohyoid ligament.³ Although approximately 4% of the population is thought to have an elongated styloid process, only a small percentage (between 4% and 10.3%) of this group is thought to actually be symptomatic.⁴ No data could be found to correlate degree of elongation of the styloid to severity of symptoms.

Diagnosis is made both radiographically and by physical examination. Palpation of the styloid process in the tonsillar fossa is indicative of elongated styloid in that processes of normal length are not normally palpable. Palpation of the tip of the styloid should exacerbate existing symptoms.⁴ If highly suspicious for Eagle syndrome, confirmation can be made by radiographic studies.⁴ In reviewing these radiographs, it should be noted that the normal length of the styloid in an adult is approximately 2.5 cm⁵ whereas an elongated styloid is generally > 3 cm in length.⁶ Although Eagle syndrome is thought to be caused by an elongated styloid process or calcified stylohyoid ligament, the presence of an elongated styloid process is not pathognomonic for Eagle syndrome because many patients with incidental findings of an elongated styloid process are asymptomatic. Lateral view radiographs of the skull can be substituted for panoramic radiographs, and an anteroposterior view radiograph should be obtained to determine whether there is any lateral deviation of the styloid. As stated earlier, CT is useful in that it provides complementary information to that provided by plain radiographic studies.


The actual cause of the elongation is a poorly understood process. Several theories have been proposed: 1) congenital elongation of the styloid process due to persistence of a cartilaginous analog of the stylohyal (one of the embryologic precursors of the styloid), 2) calcification of the stylohyoid ligament by an unknown process, and 3) growth of osseous tissue at the insertion of the stylohyoid ligament.³

The pathophysiological mechanism of symptoms is debated as well. Theories include the following: 1) traumatic fracture of the styloid process causing proliferation of granulation tissue, which places pressure on the surrounding structures;⁷ 2) compression of adjacent nerves, the glossopharyngeal, lower branch of the trigeminal, or chorda tympani; 3) degenerative and inflammatory changes in the tendonous portion of the stylohyoid insertion, called insertion tendinitis; 4) irritation of the pharyngeal mucosa by direct compression or post-tonsillectomy scarring (involves cranial nerves V, VII, IX, and X); and 5) impingement of the carotid vessels, producing irritation of the sympathetic nerves in the arterial sheath.³

Treatment of Eagle syndrome is both surgical and nonsurgical. Nonsurgical treatments include reassurance, nonsteroidal anti-inflammatory medications, and steroid injections.¹ Surgical treatment is by one of two methods. Otolaryngologist W. Eagle preferentially used a transpharyngeal approach through which the elongated portion of the styloid process was removed.⁸ Although this technique does avoid external scarring, it has been heavily criticized because of the increased risk of deep space neck infection and poor visualization of the surgical field (must be performed through the mouth).^{2,8} Alternatively, the elongated portion can be removed by an extraoral approach. Although both procedures are effective in removing an elongated styloid process, the extraoral approach is thought to be superior because of the decreased risk of deep space neck infection and better visualization of the surgical field.^{2,8}

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