

Unilateral Eagle's Syndrome

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Abstract:

Eagle's syndrome represent as a neck, cervicofacial pain, dysphagia, facial pain, globus sensation, tinnitus, otalgia and headache, it may be unilateral or bilateral. About 4% of adult population accounted elongated styloid process, which are the principal factor of Eagle's syndrome and followed by 0.16% of

patients are symptomatic. Stylohyoid ligament calcification is the second most common factor.

Introduction:

The styloid process is a pointed an elongated and conical projection of the temporal bone. Situated at the in front of the mastoid process and anterior to the stylomastoid foramen. In the neck, it is situated in between the internal and external carotid arteries and is lateral to the tonsillar fossa.¹ Styloid complex consists of styloid process, styloid ligament, and stylomandibular ligament.² Styloid process and ligament are derived from first and second branchial arches and Reichert's cartilage.³

The normal adult styloid process length is considered in between 20mm to 30mm.⁴ The styloid process longer than 30mm are called elongated styloid process (ESP).^{3,4} Eagle first described a syndrome characterized by an elongated styloid process and pain in the cervicofacial region in 1937.⁵ Eagle syndrome: sometimes called styloid or stylohyoid syndrome: is a symptom complex associated with elongation of the of the styloid process or ossification of the stylohyoid ligament.⁶

The elongated styloid process cause as symptoms and need underwent to surgical management, around 6.3cms

The diagnosis must be made through a detailed history, clinical examination, and various imaging modalities. A 36 years old female patient presented with persistent pain in the throat. An elongated styloid process was diagnosed and was removed by transoral approach following the patient was relieved from her symptoms.

Keywords: Styloid process, Oral cavity, Stylohyoid Ligament.

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length in an adult human and 8cms length in dry skull have been recorded.⁷

Women are more commonly affected than to men and on an average 40 years of age of the patients frequently presenting with symptoms.^{8,9} The presenting symptoms include dull, aching pain on either side of the throat, difficulty in swallowing, foreign body sensation in the throat, pain in the facial region, and recurrent headache and vertigo.^{10,11} These symptoms are similar to many maxillofacial and oropharyngeal disorders and neuralgias, a careful and brief clinical history, examination, and radiological examination are necessary for diagnosis. Here, we present a case of an elongated styloid process measured 5.5cms as such a case of Eagle's syndrome in a 36 years of female patient and explain the diagnosis and successful management.

Case Report:

A 36 years old healthy female patient was referred to our department from the Neuro-medicine department, with complaints of persistent dull pain in the throat that is in the right tonsillar fossa. The pain aggravated during moving the head and neck from side to side. She also experienced pain during swallowing and feel a foreign body sensation.

Clinical examination show in palpation on an intra- orally, tenderness on the right tonsillar fossa. A bony mass was palpable in the same region, which was a pointed in nature. An Orthopantomograph (OPG) was taken for routine radiological examination. In radiological

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examination, a bony structure (styloid Process) that lies near the right mandibular ramus and reaches up to submandibular region, which was noticed as an ESP [Figure-1]. Further computed tomography with three-dimensional reconstruction imaging was analyzed. Image analysis revealed an elongated right styloid process measuring 55 mm length and 2.9 mm width [Figure-2]. These findings are the confirmatory diagnosis of Eagle's syndrome [figure-3]. The elongated styloid process on the right side was removed through the transoral surgical approach at the level of the tonsillar fossa. The patient was completely free of symptoms after surgery. [figure-3]



Fig-1: Radiographic slide of OPG represent elongated Rt sided styloid process.



Fig- 2: Pre Operative CT Scan slide shows elongated Rt sided styloid process (L-55mm, W- 2.9 mm)



Fig-3: Post Operative Radiograph slide (OPG-X-Ray)

Discussion:

In 1652, Pietro Marchetti was the first to describe an ossifying process of the stylohyoid ligament.¹² Eagle first described a syndrome in 1937 characterized by an elongated styloid process cause as pain in the cervicofacial region.⁵ The normal length of the styloid process is around 2.5 cm to 3 cm. The symptomatic calcification of the stylohyoid ligament complex or the elongation of the styloid process is termed Eagle's syndrome.¹³ The Eagle's syndrome is archetypal mild and nagging pain caused by styloid process elongation, which worsens at the point of swallowing and it can be confirmed by palpating the tonsillar fossa.⁶ Thot et al (2000), described length of isolation is not a risk factor but that its combination with increased acuity in deviation from norm, both anteriorly and medially makes elongated styloid process is the sole cause of Eagle syndrome.¹⁴ Eagle's syndrome characterized by the sensation of having a foreign body in the pharynx, causing difficult and painful swallowing and earache. It has been referred to as styloid syndrome, stylalgia, stylohyoid disorder, neuralgia of styloid process, cervicopharyngeal pain syndrome.¹⁰ Eagle classified two forms of the syndrome, a- carotid artery type and b-classic type. In the classic type, pain may occur after tonsillectomy where the scar tissue underneath the tonsillar fossa compresses the V, VII, IX, and X cranial nerves, causing discomfort and difficulty in swallowing and a feeling of having a foreign object in the throat.¹² The carotid artery type has symptomatology characterized by headache and nerve problem due to the inflammation of the sympathetic nerve plexus.¹² In our present case, the patient had symptoms of the classic type. The various differential diagnoses include

migraine, trigeminal, glossopharyngeal and other neuralgias, tonsillitis, otitis, psychosomatic, and inflammatory and neoplastic diseases of the orofacial region.^{15,16} In our case, elongation of styloid process was seen on the unilateral right side. In the measurements taken, styloid process was 55 mm in length and 2.9 mm in width. When compared to literature, it can be accepted that the patient has elongation of styloid process. The incidence of elongation of styloid process is higher in between the ages of 30–40.^{8,17}

Panoramic radiographs are an important tool for diagnosis of elongated styloid process.¹⁸ Panoramic radiographs are often preferred as they are routine and simple method for maxillofacial area, and other numerous imaging modalities are in use for the investigation of the elongated styloid process, which are Towne's projection, lateral cephalogram, lateral oblique view of the mandible, anteroposterior skull radiographs, cone beam computed tomography (CT), and CT. As elongated styloid process creates symptoms, it can be treated medically or with surgery. Medical treatment consists of use of steroids, local anesthesia, and oral carbamazepine, but medical treatment does not result well in the long term.¹⁹ Surgical removal of styloid process via intraoral and extra oral approach methods. In extra oral approach, a good view is obtained and minimizes major complications and also removal of process whole length. Intraoral (Tranpharyngeal) approach needed less dissection, and aesthetically good.²⁰ In the present case, an intraoral approach was used owing to its simple procedure, less operative time, and no extra oral scars.

Conclusion:

Unilateral elongation of the styloid process is usually a rare presentation, and it makes a problematic diagnosis in young patient due to similar neuralgia and condition in neck and cervical region. The elongated styloid process syndrome can be diagnosed by brief history, physical examination and radiological investigations. Resection is the treatment of choice of ESP.

Disclosure:

The authors declared no conflicts of interest.

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