

# Eagle's Syndrome

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## Summary

Eagle's syndrome is an uncommon condition resulting from an elongated styloid process, which causes cervico facial pain, tinnitus and otalgia

A 48-year-old female presented to the clinic with bilateral upper neck pain radiating to the ears with tinnitus for almost one-year duration. Examination of the oral cavity revealed atrophic tonsils and palpable bony projection deep in the tonsillar fossa. Plain lateral neck X-ray and CT scan confirmed the presence of bilateral elongated styloid processes, which were subsequently resected surgically through an oropharyngeal approach. The patient was asymptomatic at follow up at 2 years.

**Key Words:** Eagle Syndrome: Symptoms, Trans oral resection

## Introduction

Eagle' Syndrome is an uncommon disease which may cause Cervico facial pain and tinnitus<sup>3</sup>. It was first described in 1937 by W. W. Eagle. Symptoms, physical signs, theories of causation and current treatment are discussed.

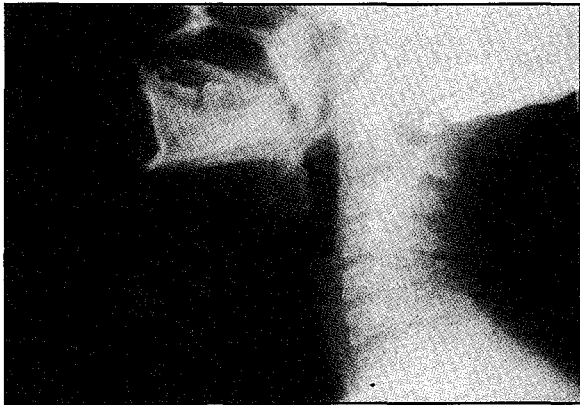
## Case Report

A 48 years female presented to the Otolaryngology clinic of Hospital Kuala Lumpur with a one-year history of bilateral upper neck pain especially during yawning and mouth opening. There was associated tinnitus and referred otalgia. There was no history of hearing loss. On examination of oropahrynx, both tonsils were found to be atrophic and on deep palpation

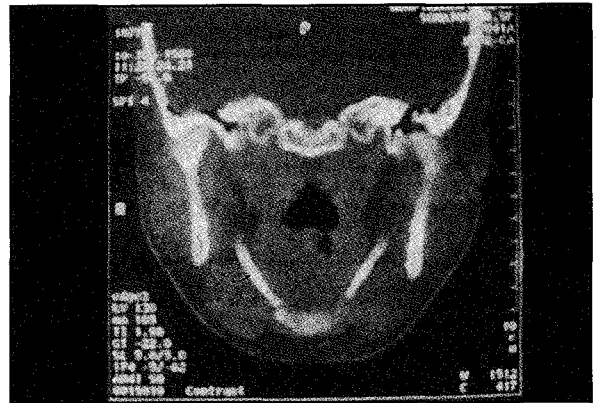
there was a bony projection in the tonsillar fossa. The rest of the ENT examination was normal. Plain lateral neck X-ray (Fig 1) confirmed the presence of the elongated styloid process. CT scan (Fig 2) confirmed the presence of elongated styloid process about 6cm in length extending downwards and anteriorly towards the anterior margin of hyoid bone. The patient under went surgical resection of elongated styloid process through an oropahryngeal approach. A bilateral tonsillectomy was carried out with subsequent incision performed over the mucosa over the styloid process. The muscular and tendinous insertions were divided. The bone was removed with a rongeur, which was about 6cm in length. Postoperative recovery was uneventful. The patient was free of symptoms at 2 years follow up.

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**Fig. 1: Plain X-ray Neck Lateral View showing the elongated styloid process**



**Fig. 2: CT Scan Neck - Coronal View showing the elongated styloid process**

### Discussion

In 1949, Eagle reported that the normal length of a styloid process was 25mm. The styloid process is derived from Reichert's cartilage, a structure of second branchial arch origin. Degeneration of Reichert's cartilage produces four divisions, which include the tympanohyale, stylohyale, ceratohyale and the hypohyale<sup>2</sup>. Failure of degeneration and subsequent calcification of portion of Reichert's cartilage may result in an elongated styloid or lesser cornu of the hyoid, calcification of stylohyoid ligament or rarely a solid bar of bone from the styloid to the hyoid bone, which was present in this patient.

Theories about development of Eagle's syndrome can be divided into degenerative and inflammatory groups<sup>1</sup>. The exact cause and trigger for onset of eagle's syndrome remains unknown.

Symptoms include cervical pain on turning head, dysphagia, foreign body sensation, tinnitus, otalgia, pain along the distribution of carotid artery and headache. The reproduction of pain on transoral palpation of tonsillar fossa is a diagnostic sign of Eagle's syndrome<sup>1</sup>. In this patient the main presenting symptom was pain on

yawning and mouth opening and referred otalgia and tinnitus. The classical reproduction of pain on transoral palpation of tonsillar fossa was also present in this patient.

Treatment includes non-surgical methods like non-steroidal anti-inflammatory drugs and local steroid injection. Surgical options include removal of the elongated styloid process through transoral approach<sup>4</sup> where there will not be any scar but the possibility of deep neck space infections and poor visualization may be a problem. An alternative approach is an external approach where is better visualization. However there is a resultant scar in the neck. In our patient, failure of conservative treatment led to surgical removal of the offending styloid process and this was performed without any complications, achieving a lasting relief of symptoms.

### Conclusion

Although Eagle syndrome is not common in Malaysia, the practicing laryngologist should not be ignorant of this disease. It should be considered as one of the differential diagnosis when patients present with signs and symptoms of cervico facial pain. Plain lateral neck x-ray

should be performed to confirm the diagnosis. Analgesics and anti-inflammatory medication may be helpful. Surgical resection of elongated styloid

process is indicated with the failure of conservative treatment.

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