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OUR EXPERIENCE IN DIAGNOSIS & MANAGEMENT OF EAGLE'S SYNDROME

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ABSTRACT **INTRODUCTION:** Eagle's syndrome is defined as the elongation of styloid process or the calcification of the stylohyoid ligament causing clinical manifestations such as throat pain, foreign body sensation, headache, and radiation of pain to the ear and neck. The clinician usually misses the diagnosis due to nonspecific clinical presentations. **Materials and Methods:** Sixteen patients with Eagle syndrome were included in our study from 2013-2018. Diagnosis of the Eagle syndrome was based on clinical presentations and three-dimensional computed tomography (CT spiral with 3D reconstruction). All were treated through under general anesthesia through anyone of the surgical approach transoral retromolar, transoral paratonsillar approach. **Results:** 3D CT is very useful for preoperative estimation of the styloid process length. There were no postoperative complications encountered. Chief symptoms of the patients were regressed in months after surgery. **Conclusion:** Clinical presentations and three dimensional CT are important for exact diagnosis of Eagle Syndrome. Surgical treatment is a safe and definitive treatment for Eagle syndrome.

KEYWORDS :

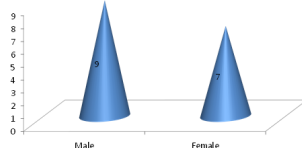
INTRODUCTION:

Eagle syndrome is a rare clinical entity consisting of pain in throat, foreign body sensation in throat, headache, ear pain, and neck pain. It occurs due to abnormally elongated styloid process or due to mineralization of Reichert's cartilage in the stylohyoid ligament. Eagle syndrome is also defined as the symptomatic elongation of the styloid process or calcification of the stylohyoid ligament. In Eagle Syndrome, the clinical presentations are variable and nonspecific. Often, the patient is misdiagnosed and treated with different antibiotic and painkillers for treatment by local physicians. Eagle syndrome is a rare clinical entity and constitutes 4% of the population. The diagnosis is usually made by palpating the tonsillar fossa for elongated styloid process and three dimensional computed tomography of neck. Here, we share our experience of sixteen patients with eagle syndrome who presented with different symptoms and we managed surgically and patients were followed up 6-12 months whose symptoms were regressed progressively.

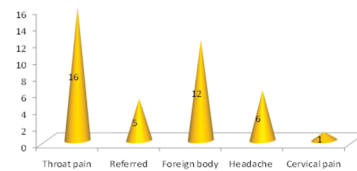
MATERIALS AND METHODS:

A retrospective study of 16 cases of Eagle syndrome was done during 2013–2018 at the otorhinolaryngology department of our tertiary care teaching hospital. Out of 16 patients, seven were female and nine were male. The age ranges from 20 years to 50 years in our study with maximum incidence in between 30 and 40 years. The mean age group was 47.14 years. Nine patients (66.66%) presented with bilateral symptoms whereas seven patients (33.33%) presented with unilateral symptoms. Patients were presented with complaints like throat pain (16 patients), foreign body sensation in the throat (12 patients), referred otalgia (5 patients), headache (6 patients), neck pain (1 patient). Computed tomography (CT) scan of the skull base confirmed the diagnosis. The length of styloid process was measured from the 3D CT scan of the skull base. Maximum length - 5.2 cm, Minimum length - 3.2cm, Mean size- 4.3 cm. For the above patients styloid process was excised through transoral approach under general anesthesia.

Sex distribution



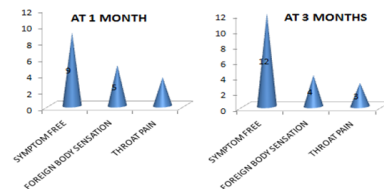
Symptoms



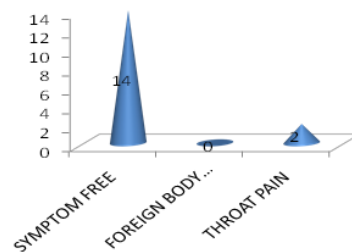
RESULTS:

Patients were followed up for 6-12 months after surgery. After 1st month-9 patients were symptom free, 5 patients presented with foreign body sensation in the throat, 2 patients with throat pain. After 3rd month-12 patients were symptom free, 4 patients presented with foreign body sensation in the throat, 3 patients with throat pain. After 6th month-14 patients were symptom free, 0 patients presented with foreign body sensation in the throat, 2 patients with throat pain. 2 patients with throat pain were treated with oral Amitriptyline & Pregabalin. The frequency and severity of symptoms reduced progressively.

POST OPERATIVE OUTCOME



AT 6 MONTHS



DISCUSSION:

Eagle syndrome is also called as styloid or stylohyoid syndrome. It is due to elongation of the styloid process or calcification of the stylohyoid ligament. The styloid process is considered as normal when its length is 2.5 cm-3cm and called elongated when its length is longer than 4 cm. Female comprises 85% of patients and it occurs among the age group between the second and third decades of life. The elongated styloid process irritates nerves and blood vessels, causing pain in the surrounding area. Elongated styloid process is seen in about 4-7% of the population and causing symptoms in 4% of population. Eagle syndrome represents symptoms due to compression of regional structures by elongation of the styloid process or ossification (calcification) of stylohyoid / stylomandibular ligaments. Symptoms are variable and non-specific.

There are two types Classical stylohyoid syndrome, Stylocarotid syndrome. Direction and curvature of styloid process were more important than its length in causing symptoms. symptoms of classical stylohyoid syndrome Chronic throat pain, Facial pain while turning the head, Facial paraesthesia (numbness), Dysphagia (problems swallowing), Foreign body sensation, Cervical pain. Symptoms of stylocarotid syndrome are Cervical pain, Ocular pain, Syncope, Transient ischemic attacks, Tinnitus

Diagnosis of eagle syndrome can be with clinical examination and imaging. Digital palpation of the fossa tonsillaris shows palpable styloid process and pain will elicited sometimes (eagle's pain). imaging includes orthopantogram and spiral CT skull base and 3D reconstruction. Medical treatment, Amitryptiline, Pregabalin, Carbamazepine. Surgical approach includes Transoral Transtonsillar, Transoral Retromolar Paratonsillar, Transcervical. Advantages of transoral techniques no external scar, Bleeding & injury to surrounding structures will be less Risk of surgical site infection is less

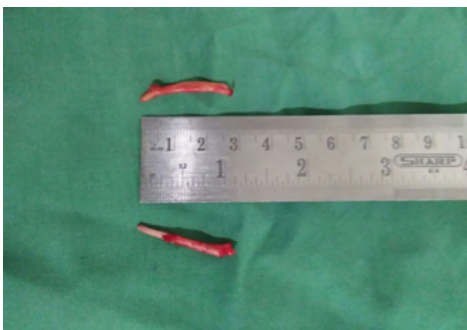
Excision of styloid process through transoral retromolar approach



Wound sutured after excision



Excised styloid process



CONCLUSION:

Eagle Syndrome is considered in the differential diagnosis of patients complaining chronic oropharyngeal pain or foreign body sensation in

the throat. The diagnosis of Eagle Syndrome is confirmed by palpating the tonsillar fossa and doing 3D CT imaging. The eagle syndrome can be diagnosed by detailed history taking, physical examination, and radiological test. It is often mistaken for other conditions that must be excluded before treatment. Resection of the styloid process is the treatment of choice. Clinician and general practitioners should get awareness about this syndrome when patient presents with chronic throat pain because diagnosis and treating th elongated styloid process is rewarding one

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