

# Eagles Syndrome And Its Conservative Management: Our Experience

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## **Abstract:**

**Introduction:** *Eagles syndrome or stylohyoid syndrome is a condition which is caused by elongated styloid process or calcified stylohyoid ligament. Eagles syndrome is a rare disorder and is characterised by craniofacial or cervical pain. Patients mostly present with sore throat, foreign body sensation in throat, ear pain. Symptoms are variable and non specific.*

**Material And Method:** *A prospective study was carried out govt. Medical College Srinagar from June 2015 to April 2016. A total of 30 patients were studied. Proper medical history and physical examination was done in all patients. Lateral head and neck radiograph imaging was done in all patients. of patients was done after 1<sup>st</sup> and 3<sup>rd</sup> month of start of treatment .*

**Result:** *Out of 30 patients 15 were males and 15 were females. Majority of patients were relieved on taking oral medications.*

**Conclusion:** *According to the study all patients with eagles syndrome should be given a trial of oral medications.*

## I. INTRODUCTION

Eagles syndrome or stylohyoid syndrome is a condition which is caused by elongated styloid process or calcified stylohyoid ligament. Styloid process is a outgrowth at the base of temporal bone, posterior to the mastoid apex. Medial to the styloid process is the internal jugular vein along with cranial nerves 7,9,10,11,12. Tip of the styloid process is close to external carotid artery laterally while medially it is close to internal carotid artery and associated sympathetic chain. Normal length of the styloid process varies greatly. Eagle defined the length of a normal styloid process to be 2.5 – 3 cm. According to Balcioglu mean length of the styloid process of patients reporting eagles syndrome is reported to be 40+/-4.72mm.

Eagles syndrome is a rare disorder and is characterised by craniofacial or cervical pain. Patients mostly present with sore throat, foreign body sensation in throat, ear pain. Symptoms are variable and non specific. Bilateral involvement is common but does not always involve bilateral symptoms. Elongated styloid process can cause “Classic Eagle Syndrome” which occurs mostly after pharyngeal trauma or tonsillectomy. It is

characterized by dull ipsilateral pharyngeal pain referred to ear and exacerbated by rotation of head. Associated symptoms can be dysphagia, foreign body sensation in throat or cervicofacial pain. Symptoms can also occur due to compression of internal and external carotid arteries due to deviated styloid process. It is characterised by pain along the distribution of artery exacerbated by rotation and compression of neck. Patients complain of supraorbital pain and parietal headache due to impingement of internal carotid artery. Pain is radiated to infraorbital region in case of external carotid artery irritation. Irritation of pharyngeal mucosa can occur by direct compression by styloid process. Fracture of ossified stylohyoid ligament followed by proliferation of granulation tissue causes pressure on surrounding structures and result in pain.

## II. MATERIALS AND METHOD

A prospective study was carried out among OPD patients with Eagles syndrome who were managed in department of otolaryngology in govt. Medical College Srinagar from June

2015 to April 2016. A total of 30 patients were studied. Proper medical history and physical examination was done in all patients. Intra oral palpation was done in all patients by placing the index finger in tonsillar fossa and applying gentle pressure. Lateral head and neck radiograph imaging was done in all patients. In radiographs a threshold length of 3 cm was accepted abnormal as per current conventions. Antero posterior views was done in patients in whom bilateral involvement was suspected. CT was done in 1 patient where Xray could not confirm the disease. All patients were put on a tricyclic antidepressant (nontriptiline 10mg) prapagalalin 75mg.. Followup of patients was done after 1<sup>st</sup> and 3<sup>rd</sup> month of start of treatment.

### III. RESULT

Total number of patients studied from June 2015 to April 2016 were 30. Out of 30 patients 15 were males and 15 were females. All patients were above 35 years of age. In all patients size of styloid process was more than 4 cm. Symptoms were bilateral in 5 out of 30 patients and unilateral in 25 out of 30 patients.

Pain	No. of patients	Percentage
Unilateral	25	83.33
Bilateral	5	16.66

Table 1: Side distribution of pain

Significant History	No. of male patients	No. of female patients	Total	Percentage (%)
Trauma	5	4	9	30%
Tonsillectomy	4	5	9	30%
Pharyngeal infections	1	3	4	13.3%
No significant history	2	6	8	26.6 %
	12	18	30	100 %

Table 2: History of patients

Symptoms	No. of patients presenting with symptoms at presentation n=30	No. of patients presenting with symptoms after 1 month n=30 (%)	No. of patients presenting with symptoms after 3 months n=30 (%)
Otalgia	25(83.3)	14(46.6)	5(16.6)
Pain face	25(83.3)	12(40)	7(23.3)
Pain neck	25(83.3)	12(40)	6(20)
Pain tongue	5(16.6)	2(6.66)	1(3.33)
Pain on chewing	5(16.6)	1(6.66)	0
Pain on turning head towards affected side	8(26.6)	3(10)	1(3.33)
Pain along distribution of carotid artery	20(66.66)	17(56.6)	10(33.33)
Foreign body sensation throat	15(50)	8(26.66)	3(10)
Odynophagia	5(16.6)	2(6.66)	0
Dysphagia	5(16.6)	3(10)	2(6.66)

Table 3: Symptoms of patients at presentation, after one and 3 months of treatment

Sex	Total no. of patients	Percentage %
Male	12	40
Female	18	60
Total	30	100

Table 4: Sex distribution of patients

### V. DISCUSSION

Styloid process is derived from the Greek word *stylos*, meaning a pillar. The structure is a long, cylindrical, cartilaginous bone located on the inferior aspect of temporal bone, posterior to the mastoid apex, anteromedial to the stylo mastoid foramen, and lateral to the jugular foramen and carotid canal. Medial to the styloid process is the internal jugular vein along with cranial nerves VII, IX, X, XI, and XII. The tip of the styloid process is close to the external carotid artery laterally, while medially, it is in close proximity to the internal carotid artery and accompanying sympathetic chain. It forms with the stylohyoid ligament and the small horn of the hyoid bone, the stylohyoid apparatus, which is derived from the cartilage of Reichert of the second brachial arch. Three muscles originate from the styloid process: the styloglossal, stylohyoid, and stylopharyngeus. The styloid and the stylo mandibular ligaments are also attached to the styloid process. Eagle's syndrome or stylohyoid syndrome is a condition which is caused by elongated styloid process or calcified stylohyoid ligament. A calcified stylohyoid ligament is found in 4% to 28% of normal population. There is no direct correlation between the severity of eagle syndrome and level of calcification. However there is a clear relationship between longer lengths of the styloid process and higher pain intensity and severity of Eagle syndrome. A prospective study was carried out among OPD patients with Eagle's syndrome who were managed in department of otolaryngology in govt. Medical College Srinagar from June 2015 to April 2016. A total of 30 patients were studied. Proper medical history was taken and physical examination was done in all patients. Lateral head and neck radiograph was done in all patients. CT was done in one patient in whom diagnosis was difficult on xray. All patients were put on prapagalalin 75mg, and tricyclic antidepressant (nontriptiline 10mg). Followup of patients was done after 1<sup>st</sup>, and 3<sup>rd</sup> month of start of treatment. Most common symptom which were observed were otalgia (83.33%), pain face(83.33%) and pain neck(83.33%), pain along the distribution of carotid artery (66.66) and foreign body sensation in throat (50%). Other less common symptoms observed were pain tongue (16.66%), pain on chewing (16.66%) and turning of head towards the affected side (26.66%), odynophagia (16.66%) and dysphagia 16.66%). Symptoms were mostly unilateral (83.33%), and no gender predisposition was seen. Significant history of tonsillectomy was seen 30% while that of trauma and pharyngeal infections was seen in 30% and 13.3 % respectively .No significant history was seen in 26.6% of patients. Follow up was done on 1<sup>st</sup> and 3<sup>rd</sup> month. Significant reduction of symptoms were seen on medical management as shown in table 3. Out of 30 patients 12 patients were male while females were 18 in no. No significant sex predilection was seen.

### VI. CONCLUSION

The diagnosis of eagle's syndrome is made with history and finding an elongated styloid process in tonsillar fossa of which palpation produces symptoms and on x-ray head and neck lateral view. Most common symptoms involved were

were otalgia, pain face and pain neck, pain along the distribution of carotid artery and foreign body sensation in throat. Symptoms were mostly unilateral, and no gender predisposition was seen. All patients were given oral medications. According to the study all patients with eagles syndrome should be given a trial of oral medications.

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