

EAGLE'S SYNDROME: A CASE REPORT WITH REVIEW OF LITERATURE

Ankita Bohra¹, Usha Bohra², Ramakant Bohra³

1. Post Graduate, Oral medicine & Radiology, Vyas Dental College & Hospital, Jodhpur, Rajasthan

2. J.S. Gynae. Jodhpur, Rajasthan

3. Senior medical Officer, Govt. Hospital C.H.B, Jodhpur

ABSTRACT:

Eagle syndrome is diagnosed when stylohyoid ligament undergoes calcification & on orthopantomogram or CT image, elongated styloid process is noticed. Clinically patient gives history of recurrent throat pain, dysphagia, unilateral /bilateral neck/ear pain. Patient also complains of difficulty in mouth opening & some unpleasant impingement in lateral side of neck. With clinical signs symptoms & examination with radiographic examination gives proper diagnosis of eagle syndrome. Surgical approach is in treatment option if the problem is persisting from a longer duration. Shape up styloid process by intraoral / extraoral method. Presenting here a case & review of literature of elongated styloid process present bilaterally with dysphagia & bilateral neck pain.

Keyword: Eagle's syndrome, styloid process, stylohyoid ligament calcification



INTRODUCTION:

Eagle's syndrome was described by Watt Weems Eagle for the first time, in the year 1937. He was an American Otorhinolaryngologist. It is also named as Stylohyoid syndrome. Eagle described the relationship of neck & ear pain with elongated styloid process & calcification of stylohyoid ligament ^[1,2,3]. Styloid process is a part of temporal bone located in front of the stylomastoid foramen. Its size varies between 20 to 25 mm in adults, but its length is variable considering 30mm to be last limit ^[2,3]. If the length is more than 30mm, it is considered to be elongated. Eagle's syndrome is characterized by painful tonsillar fossa, pain radiates to the head on affected side, oesophageal region & area

below hyoid bone ^[4]. Pain aggravates during movement of tongue. Slight female predilection with Male female ratio of 1:3 Worldwide noted case with eagle's syndrome is around 4-5% only ^[5,6] Presentation of a case of 43 year old female patient with clinical & radiographic features suggesting eagle's syndrome

CASE REPORT:

A 43-year-old female patient presented to the dental hospital with a complaint of pain in her right & left ear & neck region from past 4-5 months. The pain is of abrupt onset & varies from mild dull aching to moderate in intensity. Pain is of intermittent in nature. Patient gives history of difficulty in swallowing & associated with headache & difficulty in opening mouth.

*Corresponding Author Address: Dr Ankita Bohra, Post Graduate, Oral medicine & Radiology, Vyas Dental College & Hospital, Jodhpur, Rajasthan. Email id: aav1423@hotmail.com.

Patient feels pain & tenderness while tilting head on right to left side & vice versa. Along with this patient presented tenderness on palpation of the right & left tonsillar & paratonsillar area. During general physical examination, bilaterally, there is no clicking and popping sound was present on TMJ and there is no deviation of mandible. Face was apparently symmetrical bilaterally. There was no evidence of any mass in neck. (Figure 1& 2)

In Radiographic examination, elongated styloid process was revealed in orthopantomogram, measuring approx 4 cm on left side and 5cm on right side(Figure3).Patient is given 2% lignocaine nerve block to minimize pain sensation. Based on history, clinical features & radiographic examination diagnosis of Eagle's syndrome was made. Differential diagnosis for eagle's syndrome can be given as temporomandibular disorders, carotid artery syndrome, tonsillitis, impaction, neoplasia, otolaryngeal infections, coronoid hyperplasia, neuralgias, oral submucous fibrosis etc. Conservative approach is followed initially & medications were prescribed. Amox-clav 625mg & Ibuprofen 400 mg B.D. was prescribed for 5 days, followed by extraoral surgical approach. Medications were continued postoperatively as well.

DISCUSSION:

Eagle's syndrome or stylohyoid syndrome is defined by elongation of styloid process associated with symptoms like dysphagia, unilateral/bilateral neck pain & difficulty in opening mouth. Patient also complains of some foreign body like sensation in neck

region. The styloid process is derived from the second branchial arch of Reichert's cartilage [7,8]. Styloid process pointed from petrous part of temporal bone, attached by stylopharyngeal, stylohyoid, and styloglossal muscles. Stylohyoid & Stylomandibular ligaments are supported by styloid process [9,10]. Styloid process & lesser cornu of hyoid bone are connected by stylohyoid ligament [11]. Exact etiology for eagle syndrome is not yet known but certain theories are given to understand the pathophysiology [12,13,14].

1. Congenital styloid process elongation due to presence of calcification precursor in cartilage.
2. Mysterious cartilage calcification.
3. Bone forming cell growth within stylohyoid ligament.

Certain studies also suggests that in case of any traumatic injury of styloid process, known or unknown to patient, granulation tissue tends to repair the injury & subsequently starts applying pressure on styloid process resulting into compression & irritation of the sympathetic nerves of around carotid artery & vessels like trigeminal & glossopharyngeal nerves [15-18]. The clinical importance of elongated styloid process is related to glossopharyngeal neuralgia with underlying etiology of irritation by the bony process [19,20].

Radiographically 3 types of elongation appearance of styloid process is been observed [21-24].

- a. Type I- continuous, uninterrupted styloid process.

- b. Type II- pseudo-articulation of styloid process to stylohyoid ligament.
- c. Type III- interrupted mineralization of ligament giving appearance of pseudo-articulations within ligament.

Radiologic evaluation, such as panoramic radiography, lateral cephalometry, Towne projection film, or CT, may be used. CT is used for determining exact location & dimension of styloid process [25,26]

CONCLUSION:

Patients presenting any signs & symptoms of difficulty in swallowing or opening mouth are generally seen in dental practice. These common features are present in many

REFERENCES:

1. Eagle WW. Elongated styloid processes: report of two cases. Arch Otolaryngol 1937; 25:584–587.
2. Eagle WW. Elongated styloid process: further observations and a new syndrome. Arch Otolaryngol 1948; 47:630–640.
3. Eagle WW. Symptomatic elongated styloid process: report of two cases of styloid process-carotid artery syndrome with operation. Arch Otolaryngol 1949; 49:490–503.
4. Eagle WW. Elongated styloid process: symptoms and treatment. Arch Otolaryngol 1958; 67:172–176.
5. Eagle WW. The symptoms, diagnosis and treatment of the elongated styloid process. Am Surg 1962; 28:1–5
6. Breault MR. Eagle's Syndrome: Review of the literature and implications in craniomandibular disorders. J Craniomandibular Practice 1986; 4(4):323–337.
7. Asrani MK. Eagle's syndrome: report of three cases. Indian J Otolaryngol Head Neck Surg. 2011;63;4:396-9.
8. Valerio CS, Peyneau PD, de Sousa AC, Cardoso FO, de Oliveira DR, Taitson PF, et al. Stylohyoid syndrome: surgical approach. J Craniofac Surg 2012;23:138-40.
9. Murtagh RD, Caracciolo JT, Fernandez G. CT findings associated with Eagle syndrome. AJNR Am J Neuroradiol 2001;22:1401-2.

other conditions. But as in this case, it is important to take a proper case history & perform complete general & local examination of patient before diagnosing. The diagnosis of Eagle's syndrome is made with a history and finding of an elongated styloid process around neck & confirmed radiographically. Traditionally, treatment has been one of surgical excision of the styloid process. But many times conservative approach is followed to decrease any muscle spasm or fibrosis. It is mandatory to perform proper examination as because being in a critically important & complex anatomical area, elongated styloid process can also lead to many other associated complications or can be even misdiagnosed.

10. Steinmann EP. Styloid syndrome in absence of an elongated process. *Acta Otolaryngol* 1968;66:347-56.
11. Camarda AJ, Deschamps C, Forest D. Stylohyoid chain ossification: a discussion of etiology. *Oral Surg Oral Med Oral Pathol* 1989; 67:508–514.
12. Correll RW, Jensen JL, et al. Mineralization of the stylohyoid-stylomandibular ligament complex. *Oral surg Oral med Oral path* 1979; 48:286–291.
13. Langlais RP, Miles DA, Van Dis ML. Elongated and mineralized stylohyoid ligament complex: A proposed classification and report of a case of Eagle's syndrome. *Oral Surg. Oral Med. Oral Pathol* 1986; 61:527–532.
14. Frommer J. Anatomic variations in the stylohyoid chain and their possible clinical significance. *Oral Surg* 1974; 38:659–667.
15. Keur JJ, Campbell JP, et al. The clinical significance of the elongated styloid process. *Oral Surg Oral Med Oral Pathol* 1986; 61:399–404.
16. Lavine MH, Stoopack JC, Jerrold TL. Calcification of the stylohyoid ligament. *Oral Surg Oral Med Oral Path* 1968; 25:55– 58.
17. Mueller N, Hamilton S, Reid GD. Case Report 248. *Skeletal Radiology* 1983; 10:273–275.
18. Dolan EA, Mullen JB, Papayoanou J. Styloid-Stylohyoid Syndrome in the Differential Diagnosis of Atypical Facial Pain. *Surg Neurol* 1984; 21:291–294.
19. Lindeman P. The elongated styloid process as a cause of throat discomfort: Four case reports. *J Laryngol* 1985; 99:505–508.
20. Evans JT, Clairmont AA. The nonsurgical treatment of Eagle's syndrome. *Ear Nose Throat* 1976; 55:94–95.
21. Steinman EP. Styloid syndrome in absence of an elongated process. *Acta Otolaryngol* 1968; 66:347–356
22. Johnson GM, Rosdy NM, Horton SJ. Manual therapy assessment findings in patients diagnosed with Eagle's Syndrome: a case series. *Man Ther* 2011;16:199-202.
23. Montalbetti, L., Ferrandi, D., Pergami, P., Savoldi, F., 1995. Elongated styloid process and Eagle's syndrome. *Cephalalgia* 15, 80–93.
24. Dayal, V., Morrison, M.D., Dickson, T.J.M., 1971. Elongated styloid process. *Arch. Otolaryngol.* 94, 174–175.
25. Savranlar A, Uzun L, Ugur M B, Ozer T. Three-dimensional CT of Eagle's syndrome. *Diagn Interv Radiol* 2005; 11:206-209.
26. Raina D, Gothi R, Rajan S. Eagle's syndrome. *Indian J Radiol.* 2009;19(2) 107-108.

FIGURES:

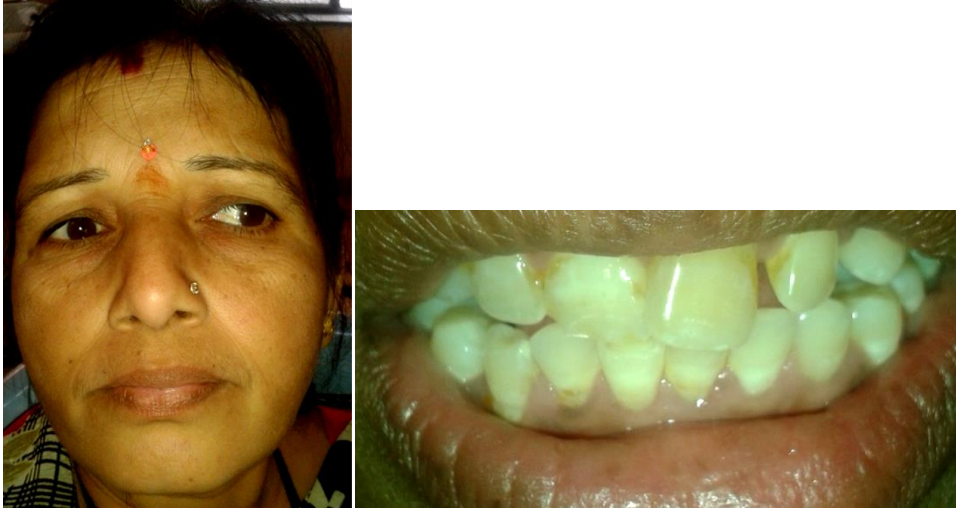


Figure 1. Showing front face profile.

2A



2B

2C

Figures 2A, 2B, 2C showing intraoral pictures.



Figure 3 Showing panoramic radiograph with bilaterally elongated styloid process.