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Eagle's syndrome - Masquerading as ear pain: Review of literature

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ABSTRACT

The name styloid process (SP) was derived from the Greek word "stylos" meaning a pillar. It is a bony, cylindrical, needle-shaped projection, which originates from the posterior-inferior side of the petrous bone, immediately in front of the stylomastoid foramen, and goes obliquely down and forward. When elongated leads to pain and discomfort called Eagle's syndrome. Elongated SP accounts approximately to 4–7% of the population, 4% only are symptomatic.

KEY WORDS: Eagle's syndrome, ear pain, styloid process

In 1937 Eagle first described vague orofacial, and head and neck pain associated with styloid elongation, and the condition became known as Eagle's syndrome. Prevalence of Eagle's syndrome in the population is reported to be 4% and is more frequent among women.[1]

Eagle's syndrome is a condition that causes a dull, nagging pain in the oropharynx, abnormal findings when palpating through the tonsillar area,[2] intermittent glossitis, and phantom foreign body discomfort of the pharynx.[3] There may be difficulty in swallowing and considerable pain may occur during the act.[4]

Discussion

The styloid process (SP), stylohyoid ligament, and the small horn of the hyoid bone from the stylohyoid apparatus, which originally derives from the Reichert cartilage of the second brachial arch during embryogenesis. The SP, the thin and long osseous part of the temporal bone.[5]

Eagle's syndrome appears during or following the third decade of life. Bilateral involvement is quite common, but does not always involve bilateral symptoms.[2,4] Symptoms of Eagle's syndrome depends on factors such as the length, width, and angulation of the SP. It is characterized by pharyngeal pain radiating to the ear, neck, tongue, and a vegetative syndrome consisting of pallor, sweating and hypotension; this is all due to excessively long SPs.[6]

There are several different theories, which try to explain the etiopathology of Eagle's syndrome such as congenital elongation of the SP and calcification and ossification of the stylohyoid ligament.[1] Fini *et al.* reported that past tonsillectomy is

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somehow related to Eagle's syndrome.[5]

Diagnosis of an Eagle's syndrome may be confused with diverse conditions which occur with orofacial pain or dysphagia, such as neuralgias of the glossopharyngeal nerve, trigeminal nerve, dental problems, chronic tonsillitis, cervical arthropathies or pharyngeal tumors. In the present cases, the pain in the ear and pharynx of the mandible was masquerading the pain due to elongated styloid.

The length of the SP is variable. Kaufman *et al*. reported that 30 mm is the upper limit for normal SPs.[7] Moffat *et al*. performed a cadaver study on the SP and reported that the normal length is between 1.52 cm and 4.77 cm.[8] In radiological studies, the length of the SP is reported to be no longer than 25 mm.[9]

Several imaging modalities have been used for the diagnosis of Eagle's syndrome thus far, including lateral head and neck radiograph, towne radiograph, panoramic radiograph, lateral-oblique mandible plain film, anteroposterior head radiograph, and computed tomography.[10]

Langlais and associates proposed a radiographic classification of the elongated and mineralized stylohyoid ligamant complex as follows. Type I: Elongated, Type II: Pseudoarticulated and Type III: Segmented. based on the pattern of calcification the types are calcified outline, partially calcified, nodular complex, and completely calcified.[11]

The length, angulation, and morphology classification as shown in Table 1.[12]

Camarda and associates stated that, in Eagle's syndrome, surgery is the initial treatment of choice because of the severity of the rapidly occurring ossification and symptoms. If the SP is excessive or radical amounts must be removed, the extraoral approach is a direct, anatomically concise approach to the SP.[13]

Conservative treatment involves injecting steroids or anesthetics into the lesser cornu of the hyoid or the inferior aspect of the tonsillar area to tone down symptoms. The surgical excision can be done by the extraoral or transcervical and the intraoral or transpharyngeal approach.[5]

To conclude, elongated SPs should be considered when a patient complains of oropharyngeal or maxillary pain originating from dental caries or impacted third molars. Careful clinical examination and a radiograph are required to confirm the diagnosis.

Table 1: Classification of styloid process

L: Length of the SP (cm)
Short (<2.00)
Long (2.00-4.00)
Elongated (>4.00)
A: Angulation of the SP
Narrow (<65.0°)
Normal (65.0-75.0°)
Wide (>75.0°)
M: Morphology of the SP
Absence of SP
Normal appearance of SP
Other morphological findings (absence of the proximal part of the SP, duplication of the proximal part of the SP, bent SP, segmented SP, pseudoarticulated SP, etc.)
SP: Styloid process

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Conflicts of interest

There are no conflicts of interest.

References

1. Eagle WW. Elongated styloid process. Report of two cases. Arch Otolaryngol 1937;25:584-7.
2. Murthy PS, Hazarika P, Mathai M, Kumar A, Kamath MP. Elongated styloid process: An overview. Int J Oral Maxillofac Surg 1990;19:230-1.
3. Woolery WA. The diagnostic challenge of styloid elongation (Eagle's syndrome). J Am Osteopath Assoc 1990;90:88-9.
4. Zohar Y, Strauss M, Laurian N. Elongated styloid process syndrome masquerading as pain of dental origin. J Maxillofac Surg 1986;14:294-7.
5. Fini G, Gasparini G, Filippini F, Becelli R, Marcotullio D. The long styloid process syndrome or Eagle's syndrome. J Craniomaxillofac Surg 2000;28:123-7.
6. Miller DB. Eagle's syndrome and the trauma patient. Significance of an elongated styloid process and/or ossified stylohyoid ligament. Funct Orthod 1997;14:30-5.
7. Kaufman SM, Elzay RP, Irish EF. Styloid process variation. Radiologic and clinical study. Arch Otolaryngol 1970;91:460-3.
8. Moffat DA, Ramsden RT, Shaw HJ. The styloid process syndrome: Aetiological factors and surgical management. J Laryngol Otol 1977;91:279-294.
9. Montalbetti L, Ferrandi D, Pergami P, Savoldi F. Elongated styloid process and Eagle's syndrome. Cephalalgia 1995;15:80-93.
10. Dayal VS, Morrison MD, Dickson TG. Elongated styloid process. Arch Otolaryngol 1971;94:174-5.
11. 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;61:527-32.
12. Basekim CC, Mutlu H, Güngör A, Silit E, Pekkafali Z, Kutlay M, *et al*. Evaluation of styloid process by three-dimensional computed tomography. Eur Radiol 2005;15:134-9.
13. Camarda AJ, Deschamps C, Forest D. II. Stylohyoid chain ossification: A discussion of etiology. Oral Surg Oral Med Oral Pathol 1989;67:515-20.