

## Case Report

### Eagle's syndrome: A rare case of young female

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#### ABSTRACT

Eagle's syndrome is a condition that causes pain in the Craniofacial and cervical region of the neck. Symptoms related to the Eagle's syndrome may be confused with the variety of neuralgias, oral, dental and temporomandibular joint (TMJ) conditions. In this paper, a case of the very young female suffering with the difficulty in swallowing and recurrent dull pain in the throat with restriction of the movement of head to the left side was presented. A thorough past medical and dental history, extra oral and intra oral examination coupled with the panoramic radiographic interpretation were used to diagnose Eagle's syndrome.

**Key Words:** Eagle's syndrome, panoramic, styloid process, swallowing, young female

#### INTRODUCTION

The length of the styloid process normally varies from 2.0 cm to 2.5 cm in adults.<sup>[1]</sup> The apex of the styloid process is clinically important because it is located between internal and external carotid arteries. The facial nerve runs anterior and medial to the styloid process. The glossopharyngeal nerve exists through jugular foramen and curves, in close proximity under the styloid process. The accessory and vagus nerves also run medial to the styloid process. The approximation of the glossopharyngeal nerve with the stylohyoid ligament is the basis for the glossopharyngeal neurological symptoms seen in Eagle's syndrome.<sup>[2]</sup>

Eagle's syndrome is a condition that causes a dull, nagging pain in the oropharynx, abnormal

findings when palpating through the tonsillar area,<sup>[3]</sup> intermittent glossitis, and phantom foreign body discomfort of the pharynx.<sup>[4]</sup> There may be difficulty in swallowing, and considerable pain may occur during the act.<sup>[5]</sup>

#### INCIDENCE

In a review of 1771 panoramic radiographs, the incidence of mineralization of the stylohyoid complex was found to be 18.2%.<sup>[6]</sup> Despite these figures, only 1-5% of patients are symptomatic.<sup>[7]</sup>

Öztaş and Orhan evaluated 2000 patients (1161 females and 839 males) by using the panoramic radiographic examination and the study revealed styloid ligament calcification in 1350 patients and the incidence of styloid ligament calcification was found to be higher in the female patients when compared to male patients. In addition, calcifications were seen more often at age 50-59 years, and the incidence of calcification was found to increase with age. Two Eagle's syndrome cases were diagnosed among a total of 2000 patients. Finally, it was determined that the incidence of calcified stylohyoid ligament is higher in patients with the systemic diseases.<sup>[8]</sup>

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In this paper, a rare case of young female with Eagle's syndrome is presented and the importance of history taking, digital palpation, and panoramic radiography is emphasized.

## CASE REPORT

A 17-year-old Saudi female patient presented to routine dental care with an intention to undergo orthodontic treatment for her crowding teeth at Riyadh Colleges of Dentistry Pharmacy University Hospital, Riyadh. Past dental history revealed that patient visited a dentist for her dental treatment when she was 11 years old and conventional panoramic radiograph was performed.

During a history taking parents revealed that she has a difficulty in swallowing and restriction during movement of her head to left side and recurrent dull ache in the throat since last 6 years. Patient had sought medical care for the pain several times without a definitive diagnosis or treatment and patient denied any history of depression or anxiety.

Physical examination revealed that the patient had a limited neck movement to left side and there was no cervical or submandibular lymphadenopathy. The rest of the neck examination was within normal with no signs of tenderness in thyroid region. There was a bilateral hypertrophy of the masseter muscle. Intraoral examination revealed tenderness on palpation in the tonsillar fossa bilaterally without pericoronitis or any odontogenic infection in the lower third molar area.

Previous panoramic radiograph of the patient at the age of 11 years revealed bilateral intermittently

calcifying stylohyoid ligament located laterally near the ramus [Figure 1]. Recent digital panoramic radiograph revealed a bilaterally calcified stylohyoid ligament measuring the length of 65 mm on the right and 55 mm on the left side [Figure 2]. Measurements of the length of the styloid processes were made directly on the radiographs from the caudal margin of the tympanic plate to the tip of the styloid process as described by the Jung *et al.*<sup>[9]</sup>

A definitive diagnosis of Eagle's syndrome was made based on past history, clinical examination and panoramic radiographic evaluation. Patient referred to an Otolaryngologist for further investigations and treatment.

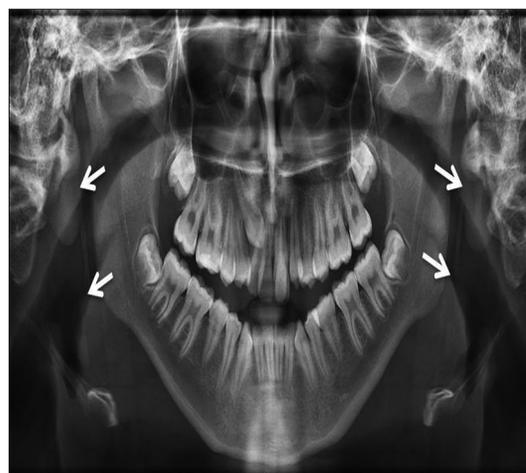
## DISCUSSION

Elongation of the styloid process has been implicated previously in pain syndromes of the craniofacial and cervical regions,<sup>[10]</sup> and is frequently misdiagnosed. The symptoms related to Eagle's syndrome can be confused with those attributed to a wide variety of facial neuralgias or oral, dental and temporomandibular diseases.<sup>[5]</sup> In the present case, there was difficulty in swallowing and pain in the left side of the neck.

Eagle's syndrome often observed in the third and fourth decades of life and in women more frequently than in men. Bilateral involvement is quite common but does not always involve bilateral symptoms.<sup>[11]</sup> Characteristic feature in this case was that patient developed symptoms of Eagle's syndrome at very young age. Symptoms were just dull ache in the throat



**Figure 1:** A panoramic radiograph of 11-year-old patient with bilateral elongated stylohyoid process (Arrows)



**Figure 2:** A panoramic radiograph of the same patient at 17-year-old, showing bilateral styloid process (Arrows)

region and difficulty in the movement of neck in the left side. Another peculiar finding in the present case was that the length of the calcified styloid ligament (6.5 cm on the right and 5.5 cm on the left side).

The differential diagnosis of elongated styloid process should include trigeminal neuralgia, TMJ diseases, migraine headaches, glossopharyngeal neuralgias, temporal arthritis, unerupted or impacted molar teeth. All possibilities have been ruled out in the present case. Careful history followed by palpation of the tonsillar fossa, which elicits the patient's pain and a panoramic radiographic evaluation revealed an image of the elongated styloid process confirming the diagnosis. In conclusion, Eagle's syndrome, not only observed during third or fourth decade of life, but it can be observed at an early age with symptoms of dull ache in the tonsillar region and restriction of neck movement.

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## REFERENCES

1. Eagle WW. Elongated styloid process; further observations and a new syndrome. *Arch Otolaryngol* 1948;47:630-40.
2. Eagle WW. The symptoms, diagnosis and treatment of the elongated styloid process. *Am Surg* 1962;28:1-5.
3. Murthy PS, Hazarika P, Mathai M, Kumar A, Kamath MP. Elongated styloid process: An overview. *Int J Oral Maxillofac Surg* 1990;19:230-1.
4. Woolery WA. The diagnostic challenge of styloid elongation (Eagle's syndrome). *J Am Osteopath Assoc* 1990;90:88-9.
5. Zohar Y, Strauss M, Laurian N. Elongated styloid process syndrome masquerading as pain of dental origin. *J Maxillofac Surg* 1986;14:294-7.
6. Correll RW, Jensen JL, Taylor JB, Rhyne RR. Mineralization of the stylohyoid-stylomandibular ligament complex. A radiographic incidence study. *Oral Surg Oral Med Oral Pathol* 1979;48:286-91.
7. 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.
8. Öztaş B, Orhan K. Investigation of the incidence of stylohyoid ligament calcifications with panoramic radiographs. *J Investig Clin Dent* 2012;3:30-5.
9. Jung T, Tschermitschek H, Hippen H, Schneider B, Borchers L. Elongated styloid process: When is it really elongated? *Dentomaxillofac Radiol* 2004;33:119-24.
10. Eagle WW. Elongated styloid process. Report of two cases. *Arch Otolaryngol* 1937;25:584-7.
11. Aral IL, Karaca I, Güngör N. Eagle's syndrome masquerading as pain of dental origin. Case report. *Aust Dent J* 1997;42:18-9.

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