



CASE REPORT

A Rare Case Report on Fracture of Elongated Styloid Process: An accidental finding

Ramesh C, Yuvaraj V, Sujee C, Suresh Kumar G.

ABSTRACT: The styloid process is a cylindrical, long cartilaginous bone located on the temporal bone. The styloid process elongation can be assumed if either the styloid process or the adjacent stylohyoid ligament ossification shows an overall length in excess of 30 mm. Here we report a case of elongated styloid process which was fractured following head injury in a road traffic accident. The patient was so diagnosed during routine radiographical examination and required no surgical intervention since she was asymptomatic.

Key words: Elongated styloid process, Eagle's syndrome, Fracture of elongated styloid process.

The styloid process (SP) is a cylindrical, long cartilaginous bone located on the temporal bone where the muscles and ligaments which have a role in mastication and swallowing are attached. There are many nerves and vessels such as carotid arteries adjacent to the SP. The SP and the stylohyoid ligament develop from the Reichert's cartilage (second pharyngeal arch). The normal SP length is approximately 20-30 mm.^[2] The styloid process elongation (SPE) can be assumed if either the SP or the adjacent stylohyoid ligament ossification shows an overall length in excess of 30 mm. [1,2] Elongated SP is known as Eagle's syndrome when it causes clinical symptoms as neck and cervicofacial pain.^[1] Eagle's syndrome often presents with recurrent pain in the oropharynx and face, foreign body sensation in the throat, dysphagia and referred otalgia.^[3] The exact cause of the elongated SP due to calcified and ossified bone and ligament is not clear. It was suggested that local chronic irritations, surgical endocrine disorders at menopause, persistence of mesenchymal tissue and mechanical stress or trauma result in calcified hyperplasia. A panoramic radiograph elongated. Panoramic images diagnosing disorders structures including maxillary and mandibular bones supporting structures.

CASE REPORT

A 17 year old female patient was referred to the department of Oral and Maxillofacial Surgery with

history of head injury for dental opinion. The patient had previously undergone treatment from the neurosurgery unit for the evacuation of extradural hematoma and appeared stable and conscious.

On examination, mild skin bruise was present in the right cheek skin and on palpation no signs of fracture were elicited.

However, radiographic investigations were carried out to rule out any presence of fracture. Paranasal sinus view revealed no signs of fracture but orthopantomography showed a peculiar elongation of styloid process which was more pronounced in the right side and closer reading of the X-ray revealed a fracture and separation of the styloid process of the temporal bone at a higher level

(Fig-1). But the patient presented symptoms of Eagle's syndrome before or later after head

as asymptomatic no surgery formed to retrieve the fracture. However, she was kept under observation and she was explained about the possible occurrence of symptoms of Eagle's syndrome. She was assured of the procedure and advised to report immediately if she

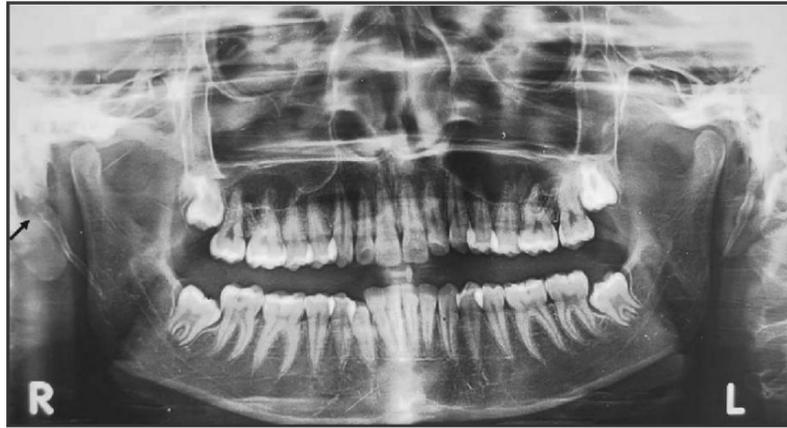


Figure 1 :Panoramic view showing fracture of right elongated styloid process. Black arrow indicates separation of the styloid process

develops any signs or symptoms associated with Eagle's syndrome.

DISCUSSION

The stylohyoid and the stylomandibular ligament are fixed to the styloid process (together those structures form the complex called "white flowers bouquet"); the stylohyoid ligament can be ossified as it is a cartilaginous tissue and it can be subjected to fracture. The stylohyoid, styloglossus and stylopharyngeus muscles originate from the styloid process (forming together the "Riolando's bouquet"); under action of these muscles, the distal fragment of the fractures styloid process tends to dislocate downwards, but this did not happen to our patient, instead mild dislocation is evident.

Even though spontaneous fracture may occur due to daily acts such as swallowing, yawning or coughing, fracture of the styloid process is usually linked to blunt trauma of the head or neck. The signs and symptoms associated with fracture of the styloid process are similar to those of Eagle's syndrome like dysphagia, limited movement of the mandible, pain associated with head movement, pain and pharyngeal edema, pain in the tonsil area and around the ear, atypical facial pain, ocular pain. The second presentation, also known as the carotid artery syndrome, is believed to be due to direct mechanical irritation of sympathetic nerves that accompany the internal and/or external carotid arteries within the carotid sheath.

More commonly a panoramic radiography is used to determine whether the SP is elongated, Panoramic

images are most useful clinically for diagnosing disorders related to facial structures including maxillary and mandibular bones and their supporting structures. Although fracture of the styloid process is evident in orthopantomogram, our patient was asymptomatic with no signs or symptoms of Eagle's syndrome or the Carotid artery syndrome.

CONCLUSION

From our case, we can conclude that fracture of the styloid process which occurred in association with head injury does not always land up with pain, dysphagia or discomfort in the neck but may remain symptomless which is not an absolute indication for surgery.

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