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Eagle's syndrome: a case report

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Abstract: Eagle's syndrome is a rare radio-clinical entity characterized by ossification of the stylohyoid ligament. We report the case of an Eagle syndrome in a 62-year-old patient, without any particular pathological history, admitted for a continuous cervical pain evolving since 5 years. The radiography of the cervical spine shows a large linear formation under the mandible, which seems to continue with the styloid processes. Cervicofacial CT scan showed excessive calcification of both stylohyoid ligaments. The patient was put on symptomatic treatment with non-steroidal anti-inflammatory drugs. Eagle's syndrome is a little known and controversial radio-clinical entity in the literature. It is a frequent cause of neck and craniofacial pain that should be kept in mind by all clinicians.

Keyword: Cervical pain; Eagle Syndrome; CT scan

Introduction:

Eagle syndrome is a rare radio-clinical entity characterized by ossification of the stylohyoid ligament. It occurs when the stylohyoid complex conflicts with surrounding anatomical structures. It is a frequent cause of neck and craniofacial pain. This little-known entity poses problems of differential diagnosis with numerous pathologies.

We report the case of an Eagle's syndrome in a 62-year-old patient in relation to ossification of both stylohyoid ligaments.

Case presentation:

This is a 61-year-old patient, with no specific pathological history, admitted for continuous neck pain evolving for 5 years. This pain is exacerbated by head rotation and swallowing movements and by cervical hyperextension. It partially improved with medical treatment based on non-steroidal anti-inflammatory drugs.

Clinical examination reveals pain on mobilization of the cervical spine with limited lateral tilting and extension movements. There was also pain on palpation of the bilateral tonsil area. The rest of the clinical examination was unremarkable.

Cervical spine radiographs showed a large linear radiopaque formation under the mandible bilaterally that appeared to continue with the styloid processes in relation to calcification of the stylohyoid ligament bilaterally (Fig. 1). The cervical spine is also seen to be straight with a stepped discarthrosis and posterior inter apophyseal arthrosis.

The cervicofacial CT scan showed excessive calcification of both stylohyoid ligaments reaching 6 cm of maximum length (Fig. 2-3).

The patient was treated symptomatically with non-steroidal anti-inflammatory drugs, and referred to otolaryngology department for further management.

Discussion:

Eagle's syndrome is a rare clinical entity. Eagle described the first two cases of this syndrome in 1937 [1]. It is the translation of a long styloid process and/or calcification of the stylohyoid ligament and/or a long small horn of the hyoid bone [2].

Four percent of the population is reported to have elongation of the styloid process but only 4-10% of these patients present with symptomatology [3]. Eagle's syndrome is the consequence of a conflict of the styloid process with the surrounding anatomical structures: the carotid arteries, the internal jugular vein, the facial nerve, the glossopharyngeal nerve, the vagus nerve and the hypoglossal nerve [4].

The etiopathogeny of Eagle's syndrome remains poorly understood, and several hypotheses attempt to explain this syndrome such as congenital lengthening of the styloid process and trauma to the cervico-pharyngeal region [1]. In our case, no history of surgery or trauma to the cervical or facial region was reported by the patient.

The clinical presentation is polymorphous and non-specific. Three clinical presentations have been described by Eagle, the first is the classic syndrome associating cervical pain, otalgia and pharyngeal discomfort, the second is characterized by pain along the external carotid artery and the third asymptomatic.

Complications related to the compression of vascular elements have been reported, such as transient ischemic attacks and dissection of the extracranial portion of the internal carotid artery [5].

Standard radiological exploration confirms the diagnosis by showing the presence of the bony process that extends from the styloid process to the homolateral small horn of the hyoid bone. The superimposition of several bony structures and magnifications secondary to angulation are potential drawbacks of conventional radiography [6]. These disadvantages are eliminated with the CT scan, which allows a better analysis of the relationship of the ossified ligament with the surrounding structures.

The recommended management combines medical and surgical treatment [7-9].

Medical treatment is symptomatic and involves analgesics, non-steroidal anti-inflammatory drugs and sometimes local corticosteroid injections [10]. Surgical treatment remains the curative treatment by resection of stylohyoid calcifications by different approaches. Eagle chose the trans-pharyngeal approach via the buccal route, which avoids skin scars, but at the expense of limited visibility of the surgical site and a high risk of cervical cellulitis [11, 12]. Other authors [8, 9, 11, 12] prefer cervicotomy, which allows good visibility of the surgical site and reduces the risk of postoperative cellulitis.

CONCLUSIONS:

Eagle's syndrome is a little known and controversial radio-clinical entity in the literature. It is a frequent cause of neck and craniofacial pain that should be kept in mind by all clinicians. The clinical presentation is not very specific and can therefore lead to diagnostic errors due to a lack of knowledge of the pathology and the multiplicity of differential diagnoses. Diagnosis is confirmed radiologically by the demonstration of an elongated styloid. The curative treatment is surgical.

Figures:

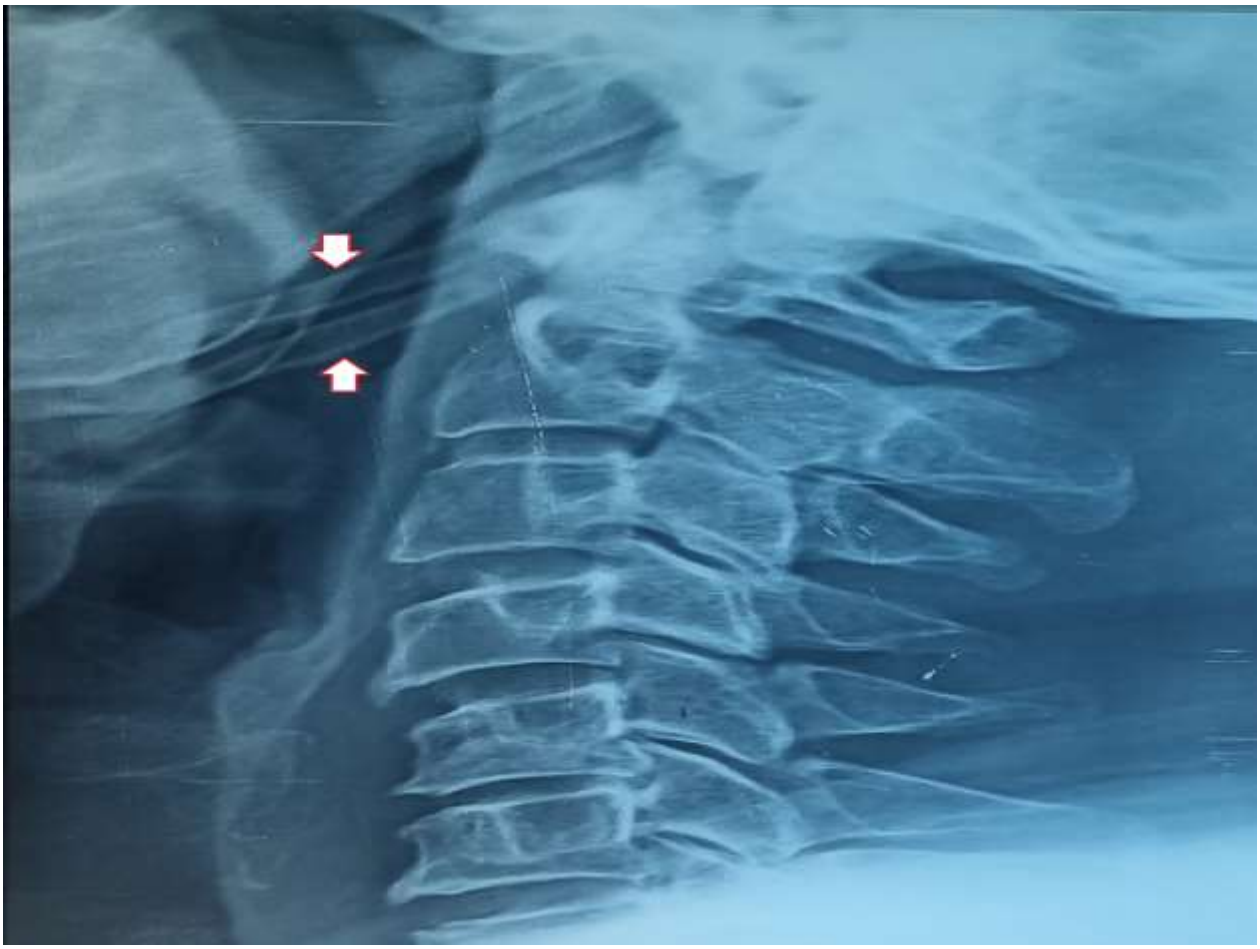

Fig. 1: X-ray of the cervical spine profile: large linear radio-opaque formations under the mandible bilaterally appearing to continue with the apophyses styloïde→ ossification of the bilateral stylohyoidal ligament (arrows).


a
b

Fig. 2: Cervicofacial CT scan in bone window: left sagittal oblique section (a), left coronal oblique section (b), right coronal oblique section (c). Ossified aspect of the two stylohyoid ligaments reaching 6 cm of maximum length giving an aspect of long styloid processes.

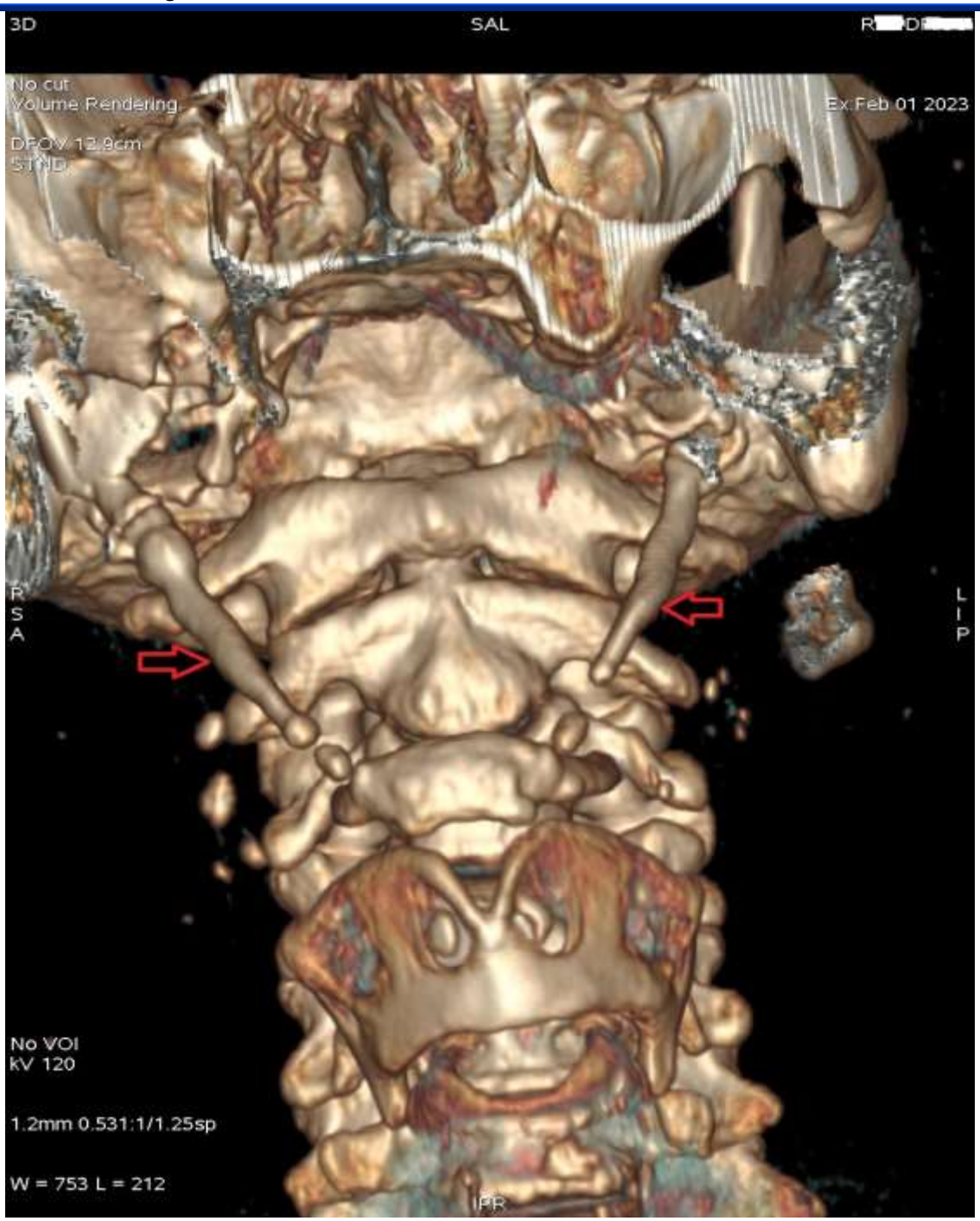

Fig. 3 : Cervicofacial CT scan with 3D reconstruction showing two bilateral bony processes extending from the styloid process towards the lesser horn of the hyoid bone testifying to ossification of the stylohyoid ligament

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