Case 6618

Eagle's syndrome: a rare cause of neck pain – case report
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Patient: 61 years, female

Clinical History:

A 61-year-old female has been referred to the Department of Radiology of our institution with a history of a neck pain intensified by motion for more than one year in order to perform a Cervical CT scan.

Imaging Findings:

A female, 61-year-old patient has been referred to the Department of Radiology of our institution, with a history of a neck pain intensified by motion for more than one year. Patient denied any history of previous trauma and symptoms like dysphagia, foreign body sensation, dysphonia and otalgia were absent. Cervical CT scan was performed demonstrating bilateral complete ossification of the stylohyoid ligament extending from the styloid process to the minor horn of the hyoid bone, establishing a pseudoarticulation between the ossified stylohyoid ligament and the minor horn of hyoid bone (Fig. 1, 2, and 3). The surrounding neck structures didn’t reveal significant pathology. The clinical and CT findings of this case represent a condition entitled Eagle’s syndrome.

Discussion:

Eagle’s syndrome represents a cluster of symptoms that includes recurrent throat pain, foreign body sensation, dysphagia, and/or facial pain associated with elongation of the styloid process or ossification of the stylohyoid ligament [1,2,3]. This condition is an uncommon but important cause of chronic head and neck pain [4]. The prevalence in the general population of an elongated styloid process and/or a calcified stylohyoid ligament has great variability. Eagle reported the prevalence of this condition in approximately 4% of the general population. Nevertheless the presence of an elongated styloid process and/or a calcified stylohyoid ligament is not pathognomonic for Eagle’s syndrome, because only a small part of this group is symptomatic (4 to 10%), being nearly all of these elongated styloid process and/or a calcified stylohyoid ligament considered to be anatomic variants [1,3,5]. The calcification or ossification of the stylohyoid ligament is usually unilateral, most commonly located in the proximal portion of the ligament. Nonetheless some patients may show bilateral ossification of the stylohyoid ligament, but not necessarily in a symmetry way [6]. Less than 1% of patients with this syndrome manifest ossification of the distal portion of the ligament [7]. The clinical diagnosis is based on the clinical findings abovementioned and physical examination through palpation of the styloid process in the tonsillar fosse, which exacerbates the pain. The diagnosis can be confirmed by imaging studies, especially by CT scan [3,4,8]. The etiology is still unknown, despite a number of theories that have been proposed: congenital elongation of the styloid process due to persistence of a cartilaginous analog of the stylohyal, calcification of the stylohyoid ligament by an unidentified mechanism and growth of osseous tissue at the insertion of the stylohyoid ligament [1,4]. Most cases of the anatomical variant of
The treatment of Eagle's syndrome depends on the intensity and severity of symptoms. For cases of mild to moderate symptoms nonsurgical treatment, including nonsteroidal anti-inflammatory medications and steroid injections can be effective. In cases of severe symptoms the proposed treatment is surgical reduction of the styloid process [1,9]. CT scan and 3D-CT reformatted images play an important role in the diagnosis of Eagle's syndrome providing detailed information about the stylohyoid chain and extension of the ossification process, as well as the anatomic relationship of adjacent structures.

**Differential Diagnosis List:** Eagle's syndrome.

**Final Diagnosis:** Eagle's syndrome.

**References:**


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Description: Cervical CT scan: Coronal reformatted image showing bilateral ossification of the stylohyoid ligment (arrows) establishing a pseudoarticulation with the hyoid bone. Origin:
**Figure 2**

Description: Cervical CT scan: Sagital reformatted image showing complete ossification of the stylohyoid ligament (arrow). **Origin:**
Description: Cervical CT scan: VRT reformatted images demonstrating bilateral and complete ossification of the stylohyoid ligament (arrows). Origin: