IMAGEM EM NEUROLOGIA/IMAGE IN NEUROLOGY

Eagle's Syndrome: Imaging Diagnosis

Síndrome de Eagle: Diagnóstico por Imagem

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We present a 38-year-old patient with intermittent neck pain for one year, especially in the right, and is more pronounced upon awakening. The pain improves with dipyrone and does not present alterations in chewing and speech. On physical examination she has a hard mass right above the hyoid bone. The x-ray demonstrates prolongation of the styloid process and ossification of the stylohyoid ligaments bilaterally (**Fig. 1**), confirmed by computed tomography (**Fig. 2**), characterizing Eagle syndrome. The patient was treated with nonsteroidal anti-inflammatory medications as she refused surgery.

Eagle's syndrome is probably underdiagnosed pathology characterized by elongation of the stylohyoid processes or ossification of the stylohyoid ligaments, which can be unilateral or bilateral.[1,2] It occurs in about 4% of the population, with only 0.16% symptomatic and has a female predilection, being very rare in young patients.[3] The mean age of diagnosis is usually in the 3rd and 4th decades of life.[3] Manifestations are varied, including dysphagia, recurrent sore throat, otalgia, foreign body sensation in the pharynx, headache, neck pain and possible facial paralysis due to compression of cranial nerve VII.[2]

The normal styloid process length is 2.5 to 3.0 cm - a 3 cm or longer process is considered anomalous.[2] Eagle's syndrome has multiple differential diagnosis, as head tumors, neck tumors, cranial nerve neuralgias, temporo-man-

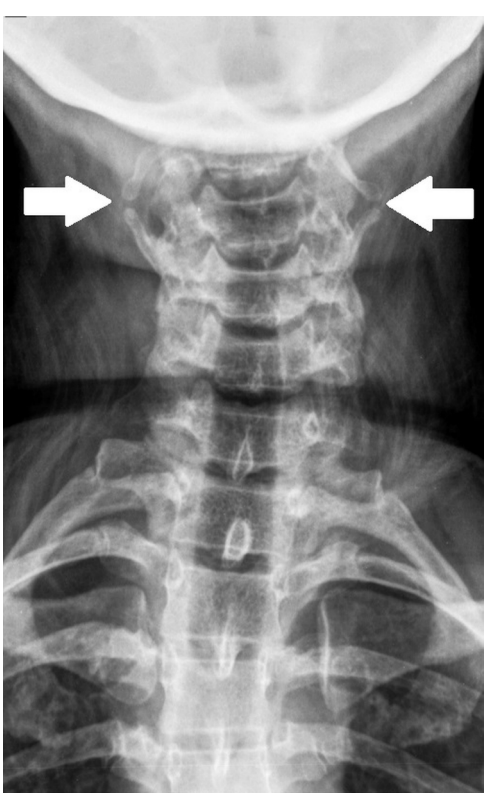

Figure 1. X-ray in the anteroposterior view demonstrating prolongation of the styloid process and ossification of the stylohyoid ligaments bilaterally (white arrows).

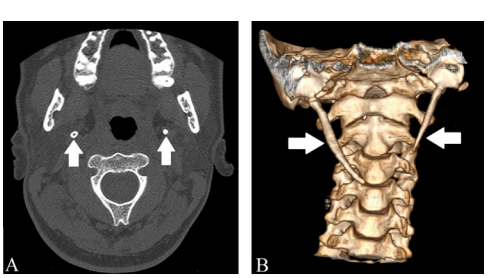

Figure 2. CT scan in the axial view in A and with 3D reconstruction in B demonstrating prolongation of the styloid process and ossification of the stylohyoid ligaments bilaterally (white arrows).

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dibular joint disease, pharyngotonsillitis, migraine, otitis, psychosomatic, and inflammatory and neoplastic diseases of the orofacial region.[4] Its etiology is still uncertain – the main theories depend on embryology, heredity, proliferation of granulation tissue after trauma, degenerative alterations, metaplasia and compression of cranial nerves V, VII, IX and X.[2]

Eagle´s syndrome has two classifications: the classic type, the scar tissue underneath the tonsillar fossa after tonsillectomy compresses the V, VII, IX, and X cranial nerves and the carotid artery type, which has an inflammation of the sympathetic nerve plexus and has symptomatology characterized by headache and nerve problem.[3]

The diagnosis is performed from an intraoral exam where it is possible to palpate the styloid process in the region of the tonsillar fossa and confirmed with imaging exams.[3] Eagle's syndrome can be diagnosed by plain films, but computed tomography is more useful to demonstrate the location and extent of the elongated styloid process.[4]

Treatment of Eagle syndrome can be surgically or pharmacologically. Non-surgical treatments contain reassurance, nonsteroidal anti-inflammatory medications, and steroid injections in the anterior pillar of the tonsillary fossa.[4] The surgical excision of the styloid process and/or the mineralized ligament can be performed through two techniques.[4] The transpharyngeal technique was employed for one of our cases and delivers better cosmetic results.[4] An external technique is easier to execute and decreases hemorrhagic and cervical infection but causes a cutaneous scar.[4] ■

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References / Referências

1. Green BN, Browske LK, Rosenthal CM. Elongated styloid processes and calcified stylohyoid ligaments in a patient with neck pain: implications for manual therapy practice. J Chiropr Med. 2014;13:128-33. doi: 10.1016/j.jcm.2014.06.006.
2. Bedajit RK, Priyokumar O, Abhilash R, Kumar S. Eagle syndrome with multiple cranial nerve involvement. J Med Soc. 2014;28:117-9. doi: 10.4103/0972-4958.141100
3. Warrier S A, Kc N, K S, Harini DM. Eagle's Syndrome: A Case Report of a Unilateral Elongated Styloid Process. Cureus. 201911:e4430. doi: 10.7759/cureus.4430.
4. Lee SK, Chau-Chin L,Sea-Kiat L. Eagle's syndrome with 3-D reconstructed CT: two cases report. Chin J Radiol. 2004 29: 353-7.