

Styloidectomy in Eagle's Syndrome and Patient's Satisfaction an Institutional Study.

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Abstract: Stylalgia is a pain syndrome occurring in connection with an elongated styloid process. 25 cases of stylalgia were diagnosed over a period of 2 years. The symptoms were throat pain during swallowing with referred otalgia the pain. The diagnosis of stylalgia is based on symptoms, palpation of enlarged styloid process intraorally in the tonsillar region. Confirmation of enlarged styloid process is done by radiological examination of styloid process. Bilateral enlargement of styloid process were found in 10 patients (40%) and unilateral enlargement was found in 15 (60%) patients. All the patients were operated under general anaesthesia. It was seen that out of 15 cases, 12 patients symptoms improved after styloidectomy operation in unilateral enlarged cases, but in bilateral cases out of 10 cases 5 patient's complain was still there.

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I. Introduction:

The styloid process is long cartilaginous bone located on the posterior lower surface of the petrosal bone. The direction of styloid is downwards to the front and slightly to the inside. The normal length of the styloid process is between 2 to 2.5 cm. It develops from the second brachial arch. The elongated styloid process can be palpated orally in the posterior tonsillar fossa. If palpation of the styloid process produces pain, which is referred to ear, head or face, it means that styloid process is elongated. Eagle's syndrome is diagnosed by both radiographical and physical examination. Palpation of the tip of the SP should exacerbate existing symptoms.

II. Material And Method

Total number of patients were 25. Patients coming with symptom of throat pain, earache, foreign body sensation were selected with radiological collaboration on OPG and clinically palpable styloid process. Tonsillectomy was done followed by styloidectomy with due care to ICA injury.

III. Results And Observations:

Age: most of the patients were in the age group of 30 to 40 years.

Sex: female preponderance was seen. Out of 25 patients 15 were females and 10 males. So the ratio was 1.5%.

Investigations: Preoperatively OPG (orthopantomogram) was done. The cases in which styloid was elongated more than 2.5cm was planned for surgery.

Out of 25 patients operated for enlarged styloid 8 patients were still symptomatic after surgery. For symptomatic patients gabapentin were for pain relieve.

IV. Discussion:

Eagle syndrome (ES) is a clinical condition in which there is abnormal ossification of the stylohyoid apparatus¹, consisting of the styloid process, the attached stylohyoid ligament, and the lesser cornu of the hyoid bone. Anatomically, the styloid process arises from the temporal bone and passes downwards, forwards, and medially. Embryologically, it is derived from the Reichert's cartilaginous component of the second branchial arch. Ossification of the styloid process and the stylohyoid ligament leads to an increase in the thickness and length of the styloid process, which then presses on the adjacent structures like the internal jugular vein, carotid artery, facial nerve, vagal nerve, glossopharyngeal nerve, and hypoglossal nerve, resulting in various pressure symptoms. The styloid process normally measures 2–2.5 cm in length; when the length exceeds 2.5 cm, it is said to be elongated².

The cause of this elongation of the styloid process is not well understood. It can be idiopathic, congenital (due to the persistence of cartilaginous elements of precursors of the styloid process), or acquired (due to the proliferation of osseous tissue at the insertion of the stylohyoid ligament).

It also may be associated with dysphagia, hypersalivation, sensation of a foreign body in the throat, and transient voice changes that are often seen following tonsillectomy³. The prevalence of styloid process elongation or stylohyoid ligament mineralization in imaging studies has been reported to be between 19.4% to 52.1% in the general population⁴, and in up to 76% of patients with temporomandibular disorder.

Pharyngeal pain with radiation to the neck and ears poses a very difficult challenge for interpretation, including a vast number of differential diagnoses⁵. The differential diagnosis for Eagle syndrome includes inflammatory disorders, masses of the pharynx and tongue base, and cranial nerve neuralgia. On the other hand, patients with an elongated styloid process manifest some transient and nonspecific symptoms as well as the severe classic symptoms, which require surgery⁶. Different forms of pharyngeal neuralgia may also result in similar symptoms including laryngeal neuralgia, occipital neuralgia (involving Arnold's nerve), sphenopalatine neuralgia (secondary to sphenoid inflammation), and finally trigeminal neuralgia which may account for sporadic pains with pressure within the auditory canal. Disorders of the temporomandibular joint constitute another possible diagnosis. In our case, most other differential diagnoses were ruled out according to the history and physical examination findings.

The symptoms that patients complain of have varied pathophysiological explanations; for example, symptoms may be due to: 1) fracture of the styloid process leading to granulation tissue proliferation, which results in pressure on surrounding structures; 2) compression of adjacent nerves, eg, the glossopharyngeal, the lower branch of the trigeminal, or the chorda tympani; 3) degenerative and inflammatory changes at the tendinous portion of the stylohyoid insertion, which is known as insertion tendonitis; 4) irritation of the pharyngeal mucosa due to direct compression, or posttonsillectomy scarring involving the cranial nerves V, VII, IX, and X; and 5) impingement of the carotid vessels with irritation of the sympathetic nerves in the arterial sheath.

ES (Eagle's syndrome) can be diagnosed radiologically and by physical examination. The elongated styloid process can be felt in the tonsillar fossa. This elongation can be confirmed radiologically using conventional radiographs or CT scan. 3DCT helps in surgical planning.

Nonsurgical treatments involve reassurance to the patient, analgesics, and steroid injections. It was observed that out of 25 patients operated 8 patients still had complaints of foreign body sensation and pain in the oral cavity. Such patients were prescribed with pregabalin and amitriptyline and the symptoms improved. Our patients responded to conservative treatment after 3 and 6 months of therapy. Nonsurgical treatment of Eagle syndrome with gabapentin, tramadol, acetaminophen, local lidocaine injection and stellate ganglion block has also been reported⁶.

The cause of pain in Eagle syndrome is the stimulation of adjacent nerves by the elongated styloid process and secondary induced inflammation. The medications such as anticonvulsants and antidepressants may reduce nerve stimulation and consequently pain intensity by altering the concentration of neurotransmitters, and analgesics such as nonsteroidal antiinflammatory drugs that may improve pain by reducing inflammation. In **conclusion**, imaging in cases suspicious for Eagle syndrome is recommended to confirm this diagnosis, and medical therapy should be considered as first-line treatment for this rare condition.



References:

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