ANOMALOUS ELONGATION OF STYLOID PROCESS

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Introduction

The normal length of the styloid process is 4.5 cms. In 4% of the population the styloid process is grossly enlarged. Elongation of styloid process may produce a variety of clinical presentations. Pain in the distribution of the glossopharyngeal and vagus nerves or pain radiating along the branches of carotid artery are the common symptoms. Although variations in the anatomy of the styloid apparatus are common, here we present an anomaly which has very rarely been reported that of total ossification of stylohyoid ligament producing an elongated styloid process resembling a rib like bar or bone.

Case Report

A 42-year old male patient presented to the ENT OPD with complaint of snoring. There were no other complaints suggestive of sleep apnoea like headache, loss of memory, narcolepsy, cataplexy, hallucinations, daytime somnolence or loss of memory. He gave history of mild right sided nasal obstruction which was constant and nonprogressive. There were no other nasal complaints of discharge, epistaxis, sneezing or anosmia. There were no aural complaints of otalgia or tinnitus. He did not give any history of pain in the upper part of neck, odynophagia or dysphonia. General morphological examination revealed no gross abnormality in facial characteristics, the shape of the face was oval, bimaxillary distance was normal and the neck was short and thick. Vital parameters were normal. Mesopharyngometry revealed grade III tongue wherein only part of the tonsils were visible, soft palate was normal in size, shape and placement. Tonsils were placed within the fossae, uvula was of normal length. Indirect laryngoscopy was difficult because of hyper gag reflex but was found to be normal. Anterior rhinoscopy showed anterior deviation of the nasal septum to the right. Other ENT examination and systemic examination was normal. Patient was investigated, a soft tissue radiograph of neck and nasopharynx was taken for cephalometry. This radiograph to our surprise revealed a thick bar of bone extending from the stylo mastoid region to as low a few millimetres proximal to the hyoid bone. A right oblique view (Fig-1) of the neck showed the complete course of the thick elongated styloid process measuring 9 cms in length. Pseudoarthrosis (Fig-2) between the styloid process and the ossified stylohyoid ligament was evident. Two rounded ossified areas were seen distally in the direction of stylohyoid ligament however no complete fusion was noticed. Following this startling radiological finding patient was subjected to repeat clinical

examination. There was no history suggestive of stylogia nor any abnormality was detected on examination of the neck or on

Fig. 1 : Showing bar like elongated styloid process

Fig. 2 : Showing pseudoarthrosis of styloid process

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palpation of tonsillar fossae. Since there were no clinical features associated with the elongated styloid process no intervention was contemplated for it however he underwent septoplasty for the DNS which relieved his snoring.

Discussion

The styloid apparatus is derived from the second branchial arch cartilage. The stylohyoid ligament represents the sheath of the cartilage from which the styloid process and the lesser cornu of the hyoid bone are derived. Enlargement of the styloid process is merely an ossification of the stylohyoid ligament. The degree of ossification is variable and not an age dependent degenerative change. Chandler [1] has described the problems due to anatomical variations and variable degree of ossification of styloid process and its ligaments. Total ossification producing a bar of bone is extremely rare and finds mention only by Lipshutz in 1922 [2].

Leighton [3] has described the formation of pseudoarthrosis between the styloid process and ossified stylohyoid ligament. Styloid apparatus anomalies are often coincidental asymptomatic radiological findings as in the present case. The presence or absence of symptoms is dictated by variations in the shape of the jaw and the length and position of the lateral process of atlas vertebra in relation to the styloid process [4].

The styloid process is related to the external carotid artery laterally and internal carotid artery medially.

The stylohyoid ligament is in immediate lateral relation to the glossopharyngeal nerve. Because of these anatomical relations the clinical manifestations of styloid apparatus anomalies are as varied as glossopharyngeal neuralgia, otalgia pharyngeal pain referred to the ears (Eagles syndrome), carotidynia, pulsatile tinnitus, dysphonia [5], globus pharyngeus or palpable neck mass [6].

Surgical excision of the styloid process is the most appropriate treatment. Intraoral or external excision may be performed. Transtonsillar fracture of styloid process may also produce limited relief of symptoms. In some cases excision of cornu of hyoid bone is advocated [7].

References

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