GLOSSOPHARYNGEAL NEURALGIA AND OSSIFICATION OF THE STYLOHYOID LIGAMENT

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The etiology of glossopharyngeal tic, like that of trigeminal neuralgia, has remained an enigma. Despite the rarity of tic douloureux of the glossopharyngeal nerve (compared to trigeminal neuralgia: 1–75), a relatively large number of reports of the former, considered to be unusual, suggest that the cause may be a varied one.

Pudenz and Shelden13 described typical glossopharyngeal tic in a patient who had had a shrapnel wound of the neck. Other unusual cases have been reported in which the tic was caused by vascular lesions (vertebral artery atheroma, thrombosis, aneurysm and anomaly),2,7,12 and new growth of the cerebellopontine angle.3,20 Dandy3 was impressed that the incidence of tumor causing glossopharyngeal tic was relatively higher than that of tumor causing trigeminal tic and stressed that cerebellopontine-angle and nasopharyngeal tumor should be sought in patients with a diagnosis of glossopharyngeal neuralgia. He found no difference in the histories of patients with glossopharyngeal tic caused by tumor and those in whom the pain was “idiopathic.” In a series of 20 patients collected from the literature, he noted a known incidence of tumor in 15 per cent and a probable one in 25 per cent.

Glossopharyngeal tic was so named by Harris,9 who formulated the idea of “tic pain” from observing a patient who had an epithelioma in the tonsil with similar paroxysmal pain. Syncope, convulsive activity, and cardiac arrest, associated at times with glossopharyngeal neuralgia, emphasize the unusual character of the disease.3,14—17,19,21

Interest in the present problem was stimulated by a patient with left glossopharyngeal tic and unusual clinical features which included ipsilateral ossification of the stylohyoid ligament. Because of the anatomical proximity of the glossopharyngeal nerve to this structure, a relationship was thought possible. Paroxysms of tic pain were referred to the left side of the throat and were precipitated by swallowing, turning of the head to the left side, and mild pressure applied to the left lateral aspect of the hyoid bone. Limitation in flexion and lateral deviation of the neck to the left side was noted. Roentgenograms of the cervical region revealed an ossified structure between the left styloid process of the temporal and lesser cornu of the hyoid bones (Fig. 1). The patient was operated upon on March 26, 1956 and has been free of pain since removal of the mass. Dr. Giancarlo Piazza,11 concerned
ETIOLOGY OF GLOSSOPHARYNGEAL NEURALGIA

with the care of this patient, permitted review of the records of a similar patient relieved of pain in the same way.

HISTORICAL BACKGROUND

The first recorded instance of ossification of the stylohyoid ligament was made by de Marchettis in a monograph on anatomy published in Padua in 1652. Lücke (1870) described the cases of 2 women, 20 and 30 years of age, who had difficulty in swallowing because of a long stylohyoid process "pressing the tonsil inward" in one, narrowing the posterior nares

![Fig. 1. Ossified stylohyoid ligament.](image)

on the affected side. Dwight in an anatomical study described 19 cases of ossification of the stylohyoid ligament. In 10 cases it was bilateral; in 5, on the right side; in 1, on the left. There was no comment in the other 3. Nine were found in men; 3 in women. Six subjects were under 30 and 6 over 50 years of age. Dwight rejected the term "ossification of the stylohyoid ligament" as wrong and misleading, and was of the opinion that the condition was caused by continued growth and subsequent ossification of the second branchial cartilage. Ossification of the second branchial (Reichert's) cartilage, subsequently represented by the styloid process, the stylohyoid ligament and the lesser cornu of the hyoid bone, is not rare, segmental ossification of the chain being observed frequently in the dissecting laboratory. Lipshutz, having observed a patient complaining of a "sensation of drag-