Glossopharyngeal Neuralgia Associated with Cardiac Arrest

Case Report

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Glossopharyngeal Tic is a rare disease, and when associated with cardiac standstill, even rarer. We are reporting such a case to call attention to the importance of recognizing this combination for therapeutic reasons. Riley, et al.,5 were the first to report the association of this illness with syncope. They demonstrated the presence of cardiac standstill by electrocardiogram. Since then, 16 additional cases have been reported in the English literature.1-4,6-8

Case Report

A 46-year-old white woman was admitted to Parkland Memorial Hospital on February 5, 1969. She had a 9-year history of repeated attacks of a stabbing, lancinating pain in the region of the right tonsil, with as many as 20 attacks a day. These attacks were triggered by swallowing cold water, chewing, talking, or even swallowing saliva. She had periods when she was free of pain lasting as long as 6 months. Recently, the attacks had increased in number and severity. She had seen a number of physicians and underwent a variety of dental and surgical procedures for relief. For the week before her admission to Parkland Hospital, every time she had an attack of pain, she would faint. Several times she had an attack while standing and would fall to the floor unconscious. She would remain unconscious for 1 to 2 minutes.

Examination. After admission, the electrocardiogram demonstrated cardiac arrest during an attack of tonsillar pain (Fig. 1). A demand transvenous pacemaker was inserted as a precautionary measure. Stroking the trigger points in her right tonsillar fossa would produce the pain followed promptly by cardiac standstill which would be corrected by the pacemaker. Diphenylhydantoin sodium failed to prevent this series of events.

Operation. Three days after admission, the right glossopharyngeal nerve and the three upper root layers of the vagus nerve were sectioned through a posterior fossa approach. After nerve section, the patient had occasional ectopic ventricular contractions. These disappeared 2 hours later. The blood pressure rose to 200/110 from a baseline of 120/80, remained there for 30 minutes, and then gradually returned to the baseline in another 30 minutes.

Postoperative Course. The patient has experienced complete relief from the pain. Attempts to reproduce it by stimulating the tonsillar fossa have been unsuccessful. Examination now discloses an area of decreased pain and temperature over the right anterior and posterior tonsillar pillars and the right half of the soft palate. She does not have any decreased sensation in the external auditory meatus or tragus.

Discussion

The combination of glossopharyngeal neuralgia in association with syncopal episodes has been reported previously 16 times. We add this case to call attention again to the combination. The association of glossopharyngeal neuralgia with syncopal episodes can be confusing. These patients during the period of standstill may have a grand mal convulsion secondary to the cerebral anoxia and be considered as being epileptic, such as in the cases reported by Thompson6 and by Richburg and Kern.4 The real cause of the syncope and seizure may pass unnoticed. It has also been catalogued as "Stoke-Adams attacks."9 In addition, these patients can be considered as hysterical.

The mechanism and the exact neural connection responsible for cardiac standstill after the pain are not well understood. It is usually considered that an overactivity of the 9th nerve nucleus associated with the pain produces an overflow of impulses that

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pass to the vagal nucleus. This excites the vagi and produces a reflex inhibition of the heart.

**Summary**

A case of glossopharyngeal tic associated with cardiac standstill has been presented and the importance of the recognition of this combination stressed. Surgical division of the 9th and upper part of the 10th cranial nerves is the treatment recommended.

**References**


