Trigeminal Neuralgia, Facial Spasm, Intermedius and Glossopharyngeal Neuralgia with Persistent Carotid Basilar Anastomosis

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The finding of a vascular structure, aneurysm, arteriosclerotic plaque, or anomalous vascular channel with encroachment on a cranial nerve causing some degree of pain or paresis has been frequently described. This paper concerns facial pain or spasm as the clinical manifestation of persistence of the trigeminal, acoustic, or hypoglossal artery.

Case Reports

Case 1. This patient, a 52-year-old woman, appeared to have the pain of typical trigeminal neuralgia over the second and third divisions of the nerve in the left side of the face. It was noteworthy, however, that the attacks were often precipitated during physical exertion, and were also frequent at night time. Neurological examination revealed that she had an area of hypesthesia over a portion of the second division of the left trigeminal nerve. Because of these atypical features in a patient with an otherwise classical clinical picture of trigeminal neuralgia, an angiographic study was done. This revealed a persistent primitive trigeminal artery (Figs. 1–3). Following this, the left retrogasserian sensory root was sectioned by way of a posterior fossa approach. At the time of surgery the fifth sensory root was seen to be elevated and in intimate contact with the persistent trigeminal artery (Fig. 4). This was dissected from the root prior to division and care taken to preserve the vessel.

Case 2. This patient, a 55-year-old man, was known to have suffered with right-sided hemifacial spasm for many years. In addition, he complained of severe paroxysmal pain deep in his throat and right ear. The diagnosis of geniculate neuralgia was felt to be most probable. Surgical section of the nerve of Wrisberg was discussed with the patient, but he would never submit even to diagnostic studies. He stated repeatedly that so long as “his therapy” gave relief he would decline any surgical intervention. His therapy con-

Received for publication February 3, 1969.

Fig. 1. Case 1. Lateral carotid arteriogram and drawing illustrating basilar artery filling via the persistent primitive trigeminal artery.

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sisted of rather large amounts of alcoholic beverages. The patient was later found dead in his car, apparently the victim of carbon monoxide poisoning. At autopsy it was seen that the basilar artery appeared to be primarily fed by a large vessel which emerged through the anterior aspect of a rather large right internal acoustic meatus. A smaller vessel, possibly representing the internal auditory artery, was seen re-entering the internal acoustic meatus (Fig. 5). The seventh and eighth nerves were stretched and angulated by this large anomalous artery. This artery by its location seemed to be most readily explained as a persistent primitive acoustic artery.

Case 3. This patient, a 42-year-old woman, suffered sharp, burning, lancinating pain in the right tonsillar fossa, the back of the tongue, and outer ear canal. A trigger zone was present in the right tonsillar region.