GLOSSOPHARYNGEAL NEURALGIA
CAUSED BY COMPRESSION OF THE NERVE BY AN Atheromatous VERTEBRAL ARTERY

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Apart from reports relating to intra- and extracranial tumours, few observations have been published on glossopharyngeal neuralgia in which a precise cause of this disorder was discovered. Pope⁶ reported a case of neuralgia caused by pressure on the glossopharyngeal nerve by a thrombosed vertebral artery, and Lilie and Craig⁶ published another in which the cause was an anomalous artery in the cerebello-pontile angle. Ferey et al.⁴ and Deparis⁵ described cases of glossopharyngeal neuralgia caused by arachnoiditis and perineural fibrositis.

In the case presented here, partial degeneration of the glossopharyngeal nerve resulted from compression by an atheromatous vertebral artery.

CLINICAL NOTES

Van A. J., a woman of 77, had had recurrent attacks of angina pectoris since the age of 65. She was first admitted to hospital in February, 1953, suffering from a blood dyscrasia caused by nutritional deficiency. She was readmitted on May 24, 1953, complaining of a neuralgic syndrome which had commenced suddenly 5 days previously.

She had paroxysms of excruciating stabbing pain of short duration brought on by swallowing and movements of the tongue. The pain radiated from the left tonsillar fossa to the left ear and prevented her from eating and swallowing. Short intervals of relief occurred between the attacks of pain. Cocainization of the tonsillar region produced rapid though transient relief.

Examination. The patient showed a generalized severe degree of atheroma. The blood pressure was 160/90 mm. Hg. Otolaryngological and neurological findings were negative. Wassermann’s reaction was negative. The blood urea was 26 mg. per cent. The blood platelets were decreased in number: 129,000 per c.mm. on the first occasion, 48,000 per c.mm. on the second occasion. The bleeding and coagulation times were normal. The prothrombin time was 65 per cent of normal. The cerebrospinal fluid contained 3 cells per c.mm.; total protein was 22 mg. per cent. The patient died suddenly on June 9, 1954.

Postmortem examination disclosed myocardial infarction, purulent bronchiolitis, bilateral hydrenephrosis and a dissecting aneurysm of the abdominal aorta. A small focus of softening was present in the left putamen. No other macroscopical lesion was found in the brain.

The cerebral arteries showed a severe degree of atheroma and even the smallest parenchymatous vessels were affected. The left vertebral artery ran on the lateral surfaces of the cervical spinal cord and medulla oblongata, then turned towards the basilar sulcus of the pons and alone formed the basilar artery. Below this transverse groove the artery gave rise to the left posterior inferior cerebellar artery. The right vertebral artery, after running its normal course, curved backwards and outwards at the level of the transverse groove separating medulla oblongata and pons and terminated in the right posterior inferior cerebellar artery (Figs. 1 and 2). The origin of the vertebral arteries in the neck was not investigated. At the level of the lower part of the medulla oblongata, the diameter of the right vertebral
artery was 2 mm. and the diameter of the left vertebral artery was 6 mm. The circle of Willis showed inequality in the calibre of the two posterior communicating arteries.

At the level of the transverse groove, the enlarged, atheromatous, left vertebral artery made a depression on the lateral surfaces of the medulla oblongata and pons and on the undersurface of the cerebellum (Fig. 3). In the bottom of this depression, the roots of the nerves IX, X, and XI and the posterior inferior cerebellar artery were compressed. The trigeminal nerves were normal.

The roots of the right and left cranial nerves IX, X, XI, and XII were embedded in paraffin after mordanting in fluorochrome. The cranial nerves IX and X were embedded together. The nerves were cut transversely and stained by the Weigert-Pal method: some sections were counterstained by van Gieson’s method.

Fig. 1. Inferior aspect of the brain. The vertebral arteries are not united: the basilar artery is formed by the left vertebral artery only.

Fig. 2. The dissected circle of Willis demonstrates nonunion of the vertebral arteries.