Postural fluctuation of hemifacial spasm

Case report

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A patient is described who demonstrated an impressive fluctuation in the severity of hemifacial spasm with change in head position. Postmortem examination revealed a large fusiform aneurysm impinging on the facial nerve.

KEY WORDS • hemifacial spasm • postural fluctuation • vascular compression • vertebrobasilar aneurysm

Theories of the etiology of hemifacial spasm range from a central or brain-stem mechanism to either intracranial or extracranial lesions of the facial nerve. The case is reported of a patient who harbored a large fusiform aneurysm impinging on the facial nerve, causing fluctuating hemifacial spasm.

Case Report

This 52-year-old man had been cut on the back of his head by a piece of coal in a mining accident 6 years before his present admission. He did not lose consciousness. About 1 month later, he noted twitching of his right eyelid when his head was resting on a pillow, and that this stopped when he extended his neck. This condition gradually worsened and involved the right orbicularis oris muscle, and this component was aggravated by eating, chewing, and talking. He developed an intermittent right ptosis. All these features were worse when his head was inclined forward, and were considerably relieved by extending his neck, and when writing at home would not use a table, but would kneel on the floor. Five years before his present admission, he was found to be hypertensive, and was treated with a beta-blocker. He now presented for evaluation of his persisting symptoms.

Examination. The patient exhibited constant twitching of the right side of the face, with an intermittent partial ptosis, and mild weakness of the orbicularis oculi muscle. Lateral jaw movements aggravated the twitching and twitching. Neck extension improved the twitching considerably. Computerized tomography revealed a contrast-enhancing opacity anteriorly in the posterior fossa and the cavernous sinuses, suggesting vascular ectasia. There was no evidence of obstruction to the cerebrospinal fluid flow. Before investigation could be pursued, he died suddenly.

Postmortem Examination. Autopsy was performed elsewhere. A large fusiform thrombosed aneurysm of the basilar artery was demonstrated, causing brain-stem compression and ischemia. It was displaced to the right, impinging on the root entry zone of the right facial nerve (Fig. 1), and probably also compressing the nerve itself. The left vertebral artery crossed in front of the medulla, grooving the underlying medullary tissue. There was also generalized arteriosclerosis and ischemic heart disease.

Discussion

Vascular compression of the facial nerve is frequently seen at operation, and separation of an abnormal vessel from the nerve was thought by Jannetta, et al., to be the important component of the posterior fossa operation for hemifacial spasm. Others have disagreed. Kaye and Adams believed that the relief of spasm was brought about by the mild degree of trauma associated with wrapping the facial nerve and subsequent fibrosis in the nerve. In six of their patients, only two of whom had a definite pathological lesion, spasm gradually subsided over weeks and months. They thought it was
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unusual for definite arterial compression to be a contributory factor.

This patient's aneurysm was pressing directly on the facial nerve and its root entry zone to the brain stem. It seems likely that head position could influence the pressure from the aneurysm on the nerve, either by movement of the vessel's position or alteration of intra-arterial blood pressure. The impressive fluctuation of spasm with head movement strongly suggests that variation in vascular compression can directly affect whatever neuronal mechanism is producing the spasm.

References


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Fig. 1. Photograph of the aneurysm taken at autopsy showing the relationship of the fusiform aneurysm to the right seventh cranial nerve.