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Surgical Treatment of Hemifacial Spasm via Microvascular Decompression of a Large, Ectatic Vertebral Artery

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Abstract

Hemifacial spasm is a neuromuscular disorder caused by compression of the facial nerve at the nerve root entry zone, often due to ectatic or aberrant vasculature. Pathologic compression of the nerve–brainstem interface results in involuntary, paroxysmal contractions of ipsilateral facial muscles that may cause considerable impairments in quality of life. For those with severe symptoms, have positive imaging demonstrating vascular compression, or who fail other management modalities,[1–4] microvascular decompression offers potential definitive treatment.[5,6] Traditionally, nonabsorbable packing agent is used to pack between the nerve and offending vascular structure. However, for large and more complex arterial structures, simple nonabsorbable padding is often not sufficient.

In this operative video, we demonstrate microvascular decompression for intractable hemifacial spasm in a 52-year-old female using a specialized sling tacked to the petrous dura for management of a large, ectatic vertebral artery. Following a standard left retrosigmoid craniotomy, an atheromatous ectatic vertebral artery was identified. We fashioned a bovine pericardium sling around the vessel and used a permanent aneurysm clip to secure it to an incision portion of petrous dura. We subsequently identified potential additional facial nerve root compression by anterior inferior cerebellar artery (AICA) and posterior inferior cerebellar artery (PICA) branches, which were elevated and secured using Teflon felt packing. Following elevation of all three vessels, the lateral spread response resolved. At 2 weeks postoperatively, the patient reported substantial relief in her hemifacial spasms and endorsed highly improved quality of life.

Keywords
- hemifacial spasm
- vertebral artery
- sling

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The patient consented to the procedure as shown in this operative video.

Operative Video:

https://www.dropbox.com/scl/fi/i8yeyh60os462andi4tq7/Hemifacial-Spasm_12-12-23.mp4?rlkey=k0ry0au530vg7cdd15er8fk1u&dl=0 Online content including video sequences viewable at: https://www.thiemecon-nect.com/products/ejournals/html/10.1055/a-2244-1143.

Note

This abstract and operative video demonstration are original and have not been submitted elsewhere in part or in whole.

Conflict of Interest

None declared.

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