Teaching NeuroImages: Lower cervical spine dural arteriovenous fistula presenting as subarachnoid hemorrhage

Peng Gao, MD, Shiwei Du, MD, Jian Ren, MD, Guilin Li, MD, and Hongqi Zhang, MD


A 39-year-old man presented with sudden neck pain and headache. CT showed subarachnoid hemorrhage around medulla oblongata. Diagnostic angiography demonstrated a rare spinal dural arteriovenous fistula at the level of C5. The fistula recruits additional spinal pial arteries from the anterior spinal artery as feeding artery, most likely due to the venous sump effect induced by the dural shunt.1 A spinal pial aneurysm, potential cause of hemorrhage, was presumed to be related to the hemodynamic stress produced by the high flow through the shunt (figure 1).2 Endovascular embolization of the aneurysm and surgical interruption of the fistula was performed successfully (figure 2).

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Disclosure
The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

Appendix: Authors

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References


Figure 1 CT, angiography, and illustration

(A) Subarachnoid hemorrhage on CT (black arrowhead). Anterior (B) and lateral view (C), angiography of right thyrocervical trunk. (D) Angiography of left vertebral artery. (E) Superselective angiography of anterior radiculo-medullary artery. (F) Control angiography after aneurysm embolization. (G) Schematic illustration. Illustration by author Jian Ren, MD.
Figure 2 Intraoperative findings, illustration, and surgical orientation

(A, B) Intraoperative findings. (C) Illustration. (D) Surgical orientation. Illustration by author Jian Ren, MD.
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