Teaching Video NeuroImage: Inverted Patellar Reflex Localizes the Site of Spinal Epidural Arteriovenous Fistula

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Figure Congestive Myelopathy and L2/L3 Spinal Epidural Arteriovenous Fistula

(A) Sagittal MRI of the thoracic spine demonstrating diffuse T2 hyperintensity of the spinal cord with abnormal flow voids (arrows) and (B) spinal artery angiogram identifying an L2/L3 epidural arteriovenous fistula with a venous pouch at the level of the left L3 nerve root.

A 75-year-old man presented with episodes of bilateral lower extremity weakness and back pain. Examination demonstrated intact strength with spasticity of the lower extremities. While the right patellar reflex exhibited an extension response with clonus, the left leg demonstrated knee flexion (Video 1). This inverted patellar reflex implicated left L2-L4 segment/root dysfunction, leading to an absence of quadriceps response, alongside pathologic hyperreflexia triggering the activation of the opposing hamstring.1 Together, these findings suggested a thoracic myelopathy with superimposed left radiculopathy at L2-L4. MRI of the thoracic spine demonstrated T2 hyperintensity from T6 through the conus with abnormal flow voids (Figure, A). Spinal angiogram confirmed an epidural arteriovenous fistula (AVF) originating from the L2/L3 arteries with an epidural venous pouch at the level of the left L3 that was embolized with onyx (Figure, B). The mechanism of myelopathy and radiculopathy in spinal AVFs is venous hypertension and congestion that may lead to ischemia and degeneration (eAppendix 1, links.lww.com/WNL/D38).2

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E. Schipani Bailey: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data. C.Y. Itoh: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data. G. Lanzino: drafting/revision of the manuscript for content, including medical writing for content. J. Klaas: drafting/revision of the manuscript for content, including medical writing for content. M.V. Pinto: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data.

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