

# Teaching NeuroImages: Spinal cord syrinx secondary to a spinal dural arteriovenous fistula

Ismail Zaed, MS, Marcus V. Pinto, MD, Michelle L. Mauermann, MD, and Giuseppe Lanzino, MD

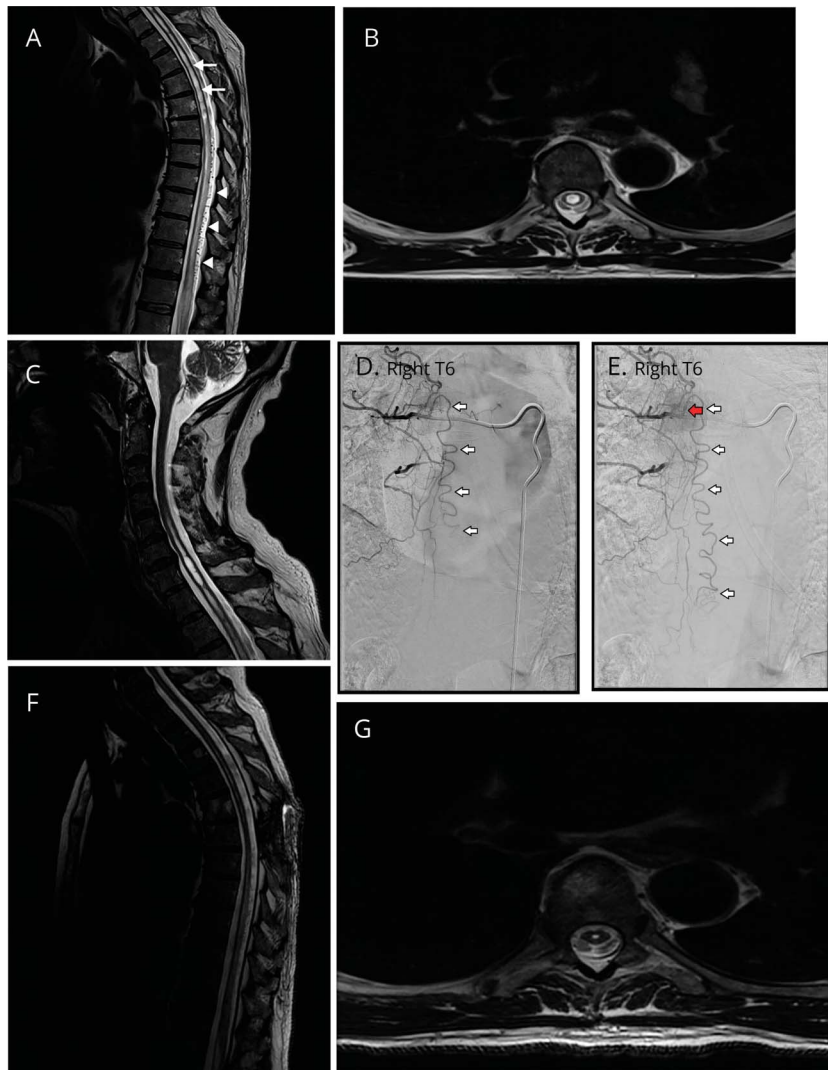
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## Correspondence

Dr. Lanzino

lanzino.giuseppe@mayo.edu

**Figure** A 60-year-old man with type I spinal dural arteriovenous fistula



(A) Sagittal MRI shows T2 hyperintensity throughout the thoracic spinal cord extending into the conus. Much of the T2 hyperintensity relates to enlargement and edema of the cord; in addition, a syrinx was noted (upper 2 arrows) with enlargement of the central canal extending from the lower cervical spinal cord to approximately T8 with mild prominence of the central canal thereafter. Numerous serpiginous dorsal epidural flow voids (lower 3 arrowheads) are apparent from T6 through the conus. (B) Axial T2-weighted MRI shows the syrinx at T4 level. (C) Sagittal cranial T2-weighted MRI shows syrinx extends from C2-3 inferiorly to visualized thoracic cord. The widest component of syrinx is at C7 level. Cerebellar tonsils appear normally positioned. (D) Early angiography shows the tortuous draining vein (arrows). (E) Late angiography shows the spinal dural arteriovenous fistula (red arrow) on the right beneath the right T6 pedicle fed by the T6 intercostal artery. A tortuous draining vein (white arrows) then courses inferiorly. Sagittal (F) and axial (G) T2-weighted MRI show resolution of the syrinx at 8 weeks after ligation of the fistula.

A 60-year-old man presented with a 2-year history of progressive lower limb weakness, numbness, urinary retention, and chronic constipation with superimposed episodes of severe paraparesis. MRI showed a cervicothoracic syrinx with flow voids (figure). Spinal angiography revealed a type I spinal dural arteriovenous fistula (SDAVF), which was treated with surgical ligation. The patient demonstrated dramatic clinical improvement and resolution of the

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From the Mayo Clinic College of Medicine and Science (I.Z.) and Departments of Neurology (M.V.P., M.L.M.) and Neurologic Surgery and Radiology (G.L.), Mayo Clinic, Rochester, MN. Go to [Neurology.org/N](https://Neurology.org/N) for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

syrinx. We are aware of one other case report of syrinx associated with SDAVF with similar outcome.<sup>1</sup> Thoracic SDAVF often occurs in men in the seventh decade, with leg weakness exacerbated by exercise,<sup>2</sup> and may be a treatable cause of syrinx.

### Author contributions

Ismail Zaed: data collection, drafting of final manuscript, approval and critical review of final form. Marcus V. Pinto: data collection, drafting of final manuscript, approval and critical review of final form. Michelle Mauerman: data collection, drafting of final manuscript, approval and critical review of final form. Giuseppe Lanzino: data collection, drafting of final manuscript, approval and critical review of final form.

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