Sacral spinal dural arteriovenous fistula: a potential diagnostic pitfall

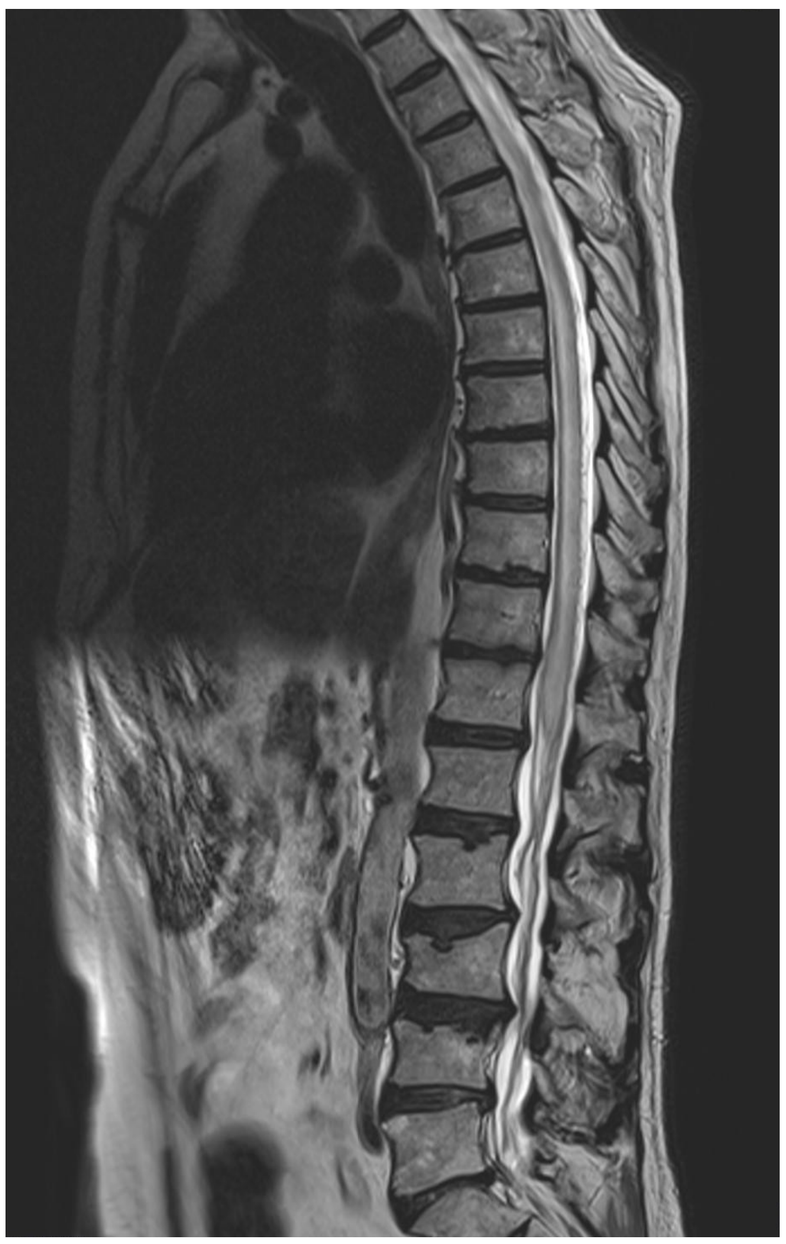
Valentina Bessi, S. Matà , S. Casagrande, S. Nappini[1], L. Bracco, S. Sorbi

SOD Neurologia I AOU Careggi, Florence
Department of Neuroscience, Psychology, Drug Research and Child Health (NEUROFARBA), section of Neuroscience, University of Florence;
[1]Interventional neurovascular unit - AOU Careggi - Florence

Background Spinal dural arteriovenous fistulas (SDAVFs) are rare pathologies, with an incidence of 5-10 new cases/million. SDAVEs are often misdiagnosed due to clinical symptoms variability at onset, and to their specificity lacking. Here we present a paradigmatic SDAVFs case with confusing clinical picture.

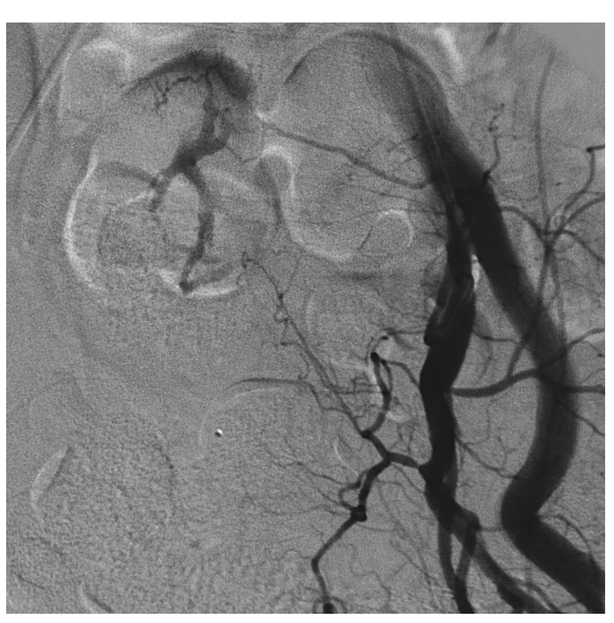
Case report: A 75-year-old man presented with progressive gait difficulties, sensory disturbances and bladder dysfunction. On examination there were mild weakness of right foot flexion and of thigh extension, with reduced jerks and hypopallesthesia.

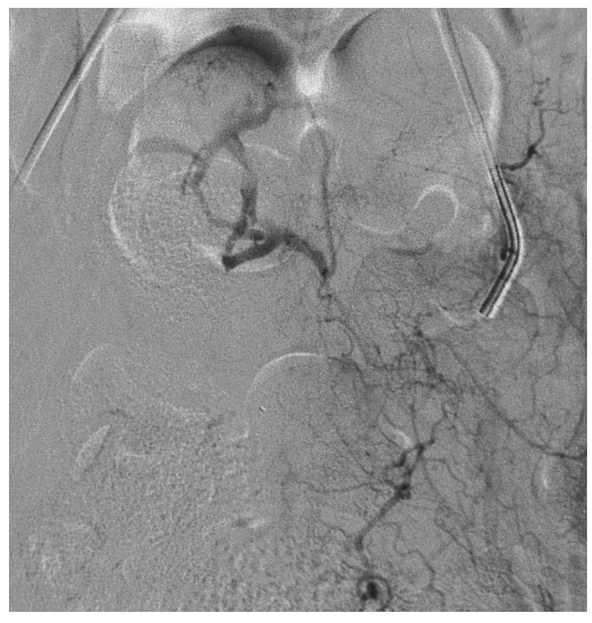
During the following four months, the disease progressed to a complete and flaccid paraplegia, with marked wasting, areflexia, loss of pain and temperature sensation below the umbilicus, urinary incontinence and constipation. A ***second MRI*** showed an enhancing, longitudinally extensive central cord lesion. ***MR angiography*** did nor reveal vascular abnormalities. CSF examination still showed increased protein content. A course of plasma-exchange was then administered, without clinical changes.

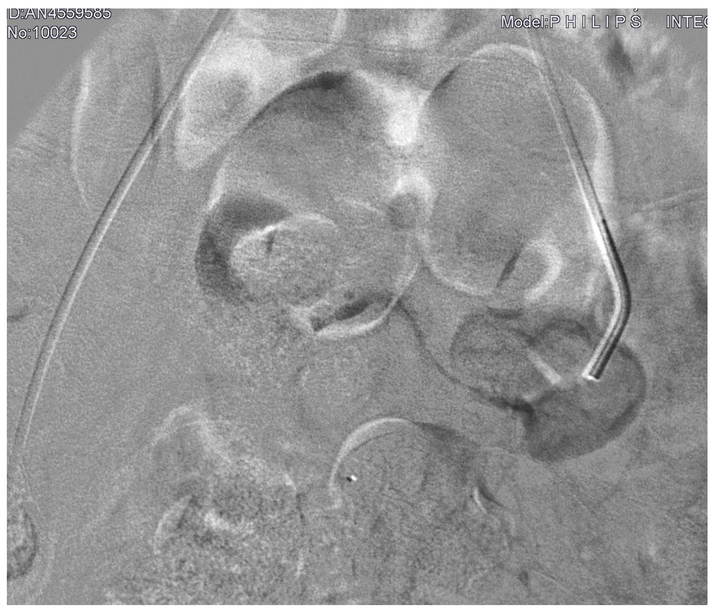


Neurophysiological esamination was consistent with a L4-S4 bilateral, asymmetric polyradiculopathy; moreover, ENG disclosed a mild sensory-motor polyneuropathy. ***Dorso-lumbar spinal cord and cauda equina MRI images*** were unremarkable. ***CSF examination*** revealed high protein content (187 mg/dL). Steroid pulse and IVIg therapy was administred based on a presumptive diagnosis of atypical inflammatory polyradiculoneuropathy, without clinical improvement.

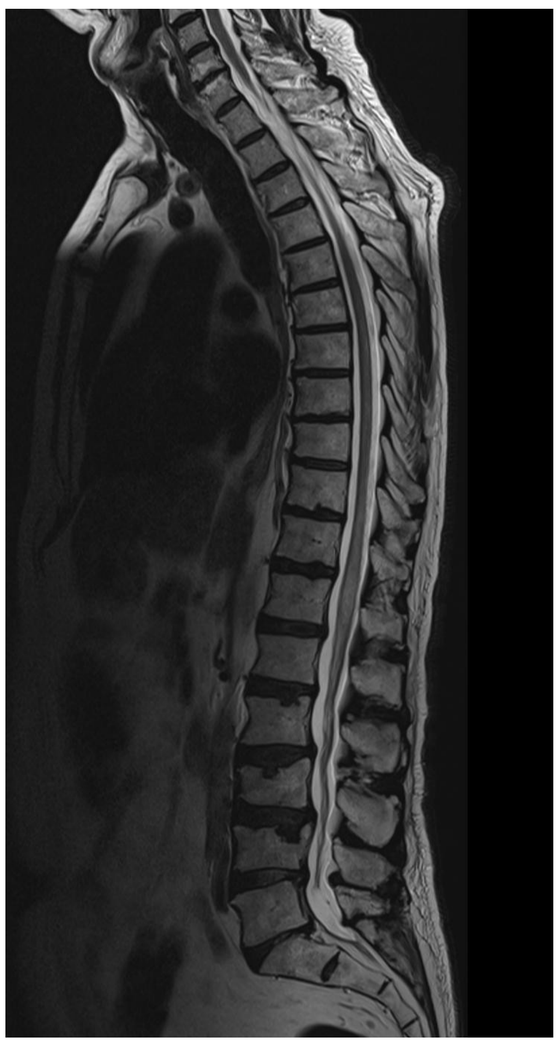
Spinal CT angiography was then performed, that revealed a sacral fistula supplied by left ipogastric artery, and venous drainage directed through perimedullary venous plexus.







Patient underwent successful endovascular embolization of the fistula, with rapid, although partial, clinical improvement.



Conclusion: SDAVF presents with unspecific symptoms which may include progressive mono- or paraparesis, paresthesias, bladder, and bowel disturbances, mononeuropathy, and upper and lower motor neuron signs. Although it is a rare disease, clinicians should be aware of SDAVFs as frequently misdiagnosed and progressively disabling neurologic conditions that can be cured.