Long term functional outcome following initial endovascular or surgical treatment of spinal dural arteriovenous fistulas.

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LEARNING OBJECTIVES
To review long-term results and functional outcomes of surgical and endovascular treatment in 64 consecutive SDAVFs.

RESULTS
There were 44 males and 20 females (male/female ratio 2.2:1, mean age 68.4 years). The SDAVFs were located at the cervical, thoracic, lumbar and sacral spine in 2 (3%), 38 (59%), 20 (31%) and 4 (6%) patients, respectively.

Initial treatment consisted of surgery in 37 (58%) patients and endovascular embolization in 27 (42%). Surgically and endovascularly treated patients had a mean follow up 45.6 and 13.1 months respectively.

No significant difference arose in the mean preoperative (2.48, 1.92; p=0.12) or post-operative functional status at 6 months follow up (1.33, 1.35; p=0.18). Repeat surgery was required in 4 (10%) patients while 2 (5%) underwent endovascular retreatment.

Of patients initially treated endovascularly, 17 (62%) underwent surgical reintervention while 4 (15%) patients underwent endovascular reintervention.

Multivariate analysis demonstrated a greater improvement in the clinical status of surgical patients (P=0.01).

DISCUSSION
Spinal arteriovenous malformations (AVMs) are rare pathologies representing 3%–4% of all space-occupying lesions affecting the spinal cord.

Thorough knowledge regarding SDAVF may enable clinicians and neuroradiologists to diagnose the disease in the early stages.

The success rate of surgery (98%) is higher than that of embolization (46%). However, embolization is less invasive and more efficient when only a single arterial feeder is shown, and can be used preoperatively to label the feeding artery.

Generally, the prognosis depends on the duration of symptoms, pretreatment disabilities, and degrees of obliteration of the fistula and draining veins, however, no reliable prognostic factors have yet been identified.

CONCLUSION
Long-term functional improvement is better following surgical treatment. The need for subsequent intervention is greater following endovascular versus surgical intervention. Surgical obliteration may be a better long-term solution to endovascular treatment of SDAVFs.

REFERENCES