

COMBINED ENDOVASCULAR AND SURGICAL TREATMENT OF SPINAL DURAL ARTERIOVENOUS FISTULAS

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Aim:

The aim of this presentation is to present our experiences and results in combined endovascular and surgical treatment of type I spinal dural arteriovenous fistulas (SDAVFs). SDAVFs are rare but most common form of spinal vascular malformations. They are low-flow vascular shunts fed by radicular arteries in patients who most often present with myelopathy.

Methods

We conducted a retrospective review of 27 adult patients with a diagnosis of SDAVF who underwent treatment at University Hospital Center Rebro Zagreb between January 2013 and January 2017. We compared complication rates, recurrence rates as data on clinical and imaging follow up in these patients.

Results

Out of 27 patients in the study, 12 patients underwent endovascular embolization (Onyx was used in 1 patients and NBCA in 11 patients) as the first line therapy. 15 patients underwent surgical ligation as initial therapeutic modality. 6 patients in embolization group had recurrence of fistula during the course of follow up requiring surgical ligation. Patients in both groups showed significant improvement in clinical status after treatment. One patient in endovascular group developed spinal infarction due to accidental embolization of posterior spinal artery. Two patients in surgical group had recurrence of fistula during the course of follow-up and were successfully reoperated. There was one epidural hematoma as a complication in surgical group of patients which had to be surgically removed.

Conclusion

Although significant number of the fistulas are amenable to endovascular embolization, microsurgical obliteration is the first option in specific anatomic situations and usually the only solution in recurrent cases. Combined approach offers best results after careful selection of patients based on DSA imaging.