Spinal dural arteriovenous fistula outcome

Early recognition and treatment of SDAVF are essential for a good prognosis.

Failure to recognize and treat SDAVF in a timely fashion can result in irreversible neurologic disability, including myelopathy, lower extremity weakness and bowel, bladder and sexual dysfunction.

Chronic pain due to spinal dural arteriovenous fistulae (SDAVF) during follow-up is a serious issue because it can affect patients' quality of life.

Most patients reported moderate to severe chronic leg pain characterized by spontaneous pain and paresthesia/dysesthesia. Spinal cord atrophy on magnetic resonance imaging scans was a characteristic in patients with chronic pain [1)].

A prospective cohort of 112 patients with SDAVFs were included consecutively in this study. The patients were serially evaluated with the modified Aminoff and Logue disability scale (mALS) one day before surgery and at 3 months, 6 months and 12 months after treatment. Univariate and multivariate analyses were performed to identify demographic, clinical and procedural factors related to favourable outcome.

A total of 94 patients (mean age 53.5 years, 78 were men) met the criteria and are included in the final analyses. Duration of symptom ranged from 0.5 to 66 months (average time period of 12.7 months). The location of SDAVFs was as follows: 31.6% above T7 level, 48.4% between T7 and T12 level (including T7 and T12) and 20.0% below T12 level. A total of 81 patients (86.2%) underwent neurosurgical treatment, 10 patients (10.6%) underwent endovascular treatment, and 3 patients (3.2%) underwent neurosurgical treatment after unsuccessful embolisation. A total of 78 patients demonstrated an improvement in mALS score of one point or greater at 12 months. Preoperative mALS score was associated with clinical improvement after adjusting for age, gender, duration of symptoms, location of fistula and treatment modality using unconditional logistic regression analysis ($p<0.05$).

Approximately four fifths of the patients experienced clinical improvement at 12 months and preoperative mALS was the strongest predictor of clinical improvement in the cohort [2)].

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Sasamori T, Hida K, Osanai T, Yano S, Seki T, Houkin K. A Survey of Chronic Pain Due to Spinal Dural Arteriovenous Fistulae. Neurosurgery. 2015 Mar 23. [Epub ahead of print] PubMed PMID: 25812069.
2)
Ma Y, Chen S, Peng C, Wang C, Li G, He C, Ye M, Hong T, Bian L, Liu J, Wang Z, Qureshi AI, Ling F, Zhang H. Clinical outcomes and prognostic factors in patients with spinal dural arteriovenous fistulas : a prospective cohort study in two Chinese centres. BMJ Open. 2018 Jan 13;8(1):e019800. doi: 10.1136/bmjopen-2017-019800. PubMed PMID: 29331977.