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Surgical outcome of spinal arachnoid cyst : A case series

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INTRODUCTION

Spinal arachnoid cysts are rare(1-3% of spinal tumors) Nabors et al. proposed a classification system categorizing SACs into three main types based on their location:

Type I: Extradural arachnoid cysts (EACs) without nerve root involvement

Type II: EACs with nerve root involvement.

Type III: Intradural meningeal cysts.

Clinical presentations vary widely, from asymptomatic incidental findings to symptoms such as myelopathy or radiculopathy.

When surgical intervention is required, there is no consensus on the preferred surgical technique. The total removal of the SAC remains controversial.

AIMS / OBJECTIVES

To evaluate the surgical outcome of spinal arachnoid cyst.

MATERIALS / METHODS

Place of study –Department of neuro surgery , Sri Venkateswara institute of medical Sciences Tirupathi.

We retrospectively reviewed the medical records for 35 consecutive cases at our institution between 2010 and 2023 who were surgically treated with a diagnosis of SAC.

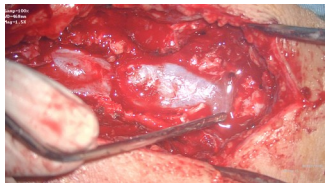
Preoperative Evaluation:

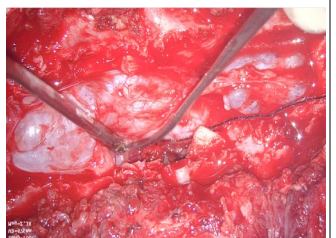
MRI spine used for diagnosis confirmation, cyst localization, neural tissue relation, and septation assessment.

Surgical Technique:

Posterior approach with laminectomy, hemilaminectomy, and extube assisted.

Total microsurgical resection or outer wall excision with inner wall marsupialization .





RESULTS & DISCUSSION

The results were analyzed in terms of the clinical symptoms, location of cyst, surgical procedure performed and outcome following surgery

Pain: Completely improved (25 patients), Partially improved (2 patients).

Motor power: improved (all patients).

Sensory manifestations: Partially improved .

Restriction of daily activity: Minimized (all patients).

Symptoms	Preoperative Proportion (%)	Improvement (%)
Neuropathic Pain	(27) 77 %	(25) 92 %
Back Pain	(23) 66 %	(20) 86 %
Weakness	(21) 61 %	(20) 95 %
Gait Imbalance	(16) 46 %	(11) 63 %
Sensory Disturbances	(13) 39 %	(9) 79 %
bladder dysfunction	(10) 28 %	(6) 60%

CONCLUSION

SACs are infrequent mass lesions in the spine that can cause neurologic dysfunction requiring surgical intervention.

Weakness and pain typically improve after surgical intervention, whereas other symptoms are less reliable.

Surgery can usually be performed via a posterior approach because most SACs are located posteriorly or posterolaterally.

Complete excision of the cyst and dural closure is preferred; however, fenestration may be necessary and safer in certain circumstances.