

Subdural-Peritoneal Shunts for Subacute and Chronic Subdural Hematomas in Adults: Case-Series and Meta-analysis

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Introduction

Subacute and chronic subdural hematomas (CSDHs) are projected to become the most common cranial neurosurgical condition in adults by the year 2030. A Cochrane review reported a significant reduction in recurrence (21.6% to 9.6%) with subdural-drains after evacuation of CSDHs. Sparse data exist on subdural-peritoneal shunts (SDPS) as a treatment for CSDHs. We report a case series of SDPS in the treatment of CSDHs. A meta-analysis including previously reported case-series was performed.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of subdural peritoneal shunts for the treatment of subacute and chronic subdural hematomas, 2) Discuss, in small groups, treatment options for subacute and chronic subdural hematomas, 3) Identify an effective treatment for subacute and chronic subdural hematomas

Methods

A retrospective review of CSDHs treated with SDPS at a tertiary care center between January 2013 and December 2016. The primary outcome was risk of symptomatic recurrence. Secondary outcomes included mortality, functional outcome, postoperative complications. PubMed was searched for studies of CSDHs treated with SDPS in adults. Our series was included in the meta-analysis.

Results

In our study 24 symptomatic adults were treated with 25 SDPS for either an initial (78%) or recurrent (32%) CSDH . The mean age was 76-years-old (range 51-93). There was 1 (4%) recurrence and 1 (4%) infection, both requiring return to OR (8%). The only SDPS shunt removed was for infection. The mean & median modified Rankin Score (mRS) improved from 3.7 & 4 preoperatively to 1.9 & 1 postoperatively, respectively. The mean & median follow-up was 10.9 & 7.7 months, respectively. There was 1 (4%) mortality after discharge unrelated to the procedure. The meta-analysis revealed 80 adults in 4 case-series treated with SDPS for an initial (33.8%) or recurrent (66.2%) CSDH. The recurrence rate was 2.5%. Complications occurred in 2 (2.5%) adults (infection and brain swelling). No procedure related mortalities occurred.

Conclusions

SDPS appears to be a safe and effective treatment for both initial and recurrent CSDHs in adults. The risk of recurrence and postoperative complications is acceptable. Larger studies are required to reveal if recurrence rates are truly lower than temporary subdural drains.

References

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