

Top and Bottom Cyst Fenestration Is A Viable Treatment for Midline Cerebellar Arachnoid Cysts Eric R. Trumble MD; Luke H. Pearson Walt Disney Pavilion at the Florida Hospital for Children; University of Central Florida College of Medicine



Introduction

Controversy exists concerning proper treatment of symptomatic posterior fossa arachnoid cysts (fenestration vs shunt). We have a unique surgical technique with a >80% success rate for treatment of these lesions.

Methods

After IRB review, a retrospective review of clinical records was conducted of 12 patients who presented with a posterior fossa arachnoid cyst between 2005 and 2012.

12 patients (mean age of 13 years) underwent cyst fenestration. All cases were diagnosed with cerebellar arachnoid cyst confirmed by radiography. Symptoms indicating surgical intervention included ataxia in 2 cases (16.7%), severe headaches in 7 cases (58.3%), hydrocephalus in 3 cases (25%), and irritability in one case (8.3%).

Operative Procedure: All patients underwent an aggressive cyst fenestration of the top and bottom of midline cerebellar arachnoid cyst, allowing CSF flow from the 3rd ventricle (or pineal cisterns) into the spinal CSF spaces.

Patients underwent a head MRI at 3, 6, 12, and 24 months postoperatively. Radiographs were assessed by a radiologist to determine status of arachnoid cyst. Patients also had follow-up in neurosurgical clinic to assess clinical status.

The surgical outcome of top and bottom cyst fenestration was evaluated for the treatment of midline cerebellar arachnoid cyst. The mean follow-up time for this study is 2.0 years. Success was defined by both the alleviation of symptoms associated with intracranial pressure and stability or regression of the cyst. Head MRI was used to determine stability or regression of cyst. Complications of original cyst fenestration and indications for reoperation after cyst fenestration will also be analyzed.

Learning Objectives

By the conclusion of this presentation, participants should understand that cyst fenestration is a viable treatment for posterior fossa arachnoid cysts and may be considered before shunting. It should also be understood that the anatomical location of cerebellar arachnoid cysts explains the symptoms patients most often present with. Fenestration of the cyst at the top and bottom allows for the restoration of normal CSF flow.

Results

Of the 12 patients, only 1 failed to tolerate the fenestration, requiring a cysto-peritoneal shunt, for a success rate of 92%(p>0.05 when compared to shunting for posterior fossa arachnoid cyst).

Conclusions

Cyst fenestration is a safe and effective treatment for symptomatic posterior fossa arachnoid cysts and should be used as a first line treatment for these entities. In our study, cyst fenestration had a higher alleviation of symptoms, fewer complications, and fewer necessary reoperations than any previously described shunting protocol in the treatment of posterior fossa arachnoid cyst.

Figure 2

Post-Operation CT

MRI Pediatric Brain wo Contrast

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Syncope;Headache

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Pre-Operation CT