Introduction

Ventriculoperitoneal shunt (VP shunt) related cerebrospinal fluid (CSF) pseudocyst is an uncommon complication in the paediatric age group. This complication is extremely rare in adults. We report a 63 year old man who presented with such a pseudocyst. Patient is asymptomatic after surgical management.

Case Report

The patient had undergone excision of a posterior cranial fossa fibroblastic meningioma with VP shunt placement for hydrocephalus, and was admitted with dull epigastric pain and anorexia since 4 months, and a gradually increasing lump in epigastric region since one month.

A CT scan of the abdomen (Fig. 1) revealed a pseudocyst measuring 18.3 x 10.7 x 13.2 cm in the lesser sac with the VP shunt catheter traversing the anterior abdominal wall and entering the cyst. The pancreas was normal in architecture with a normal pancreatic duct. Haematological investigations revealed no specific abnormality, serum amylase was normal and a normal CT brain ruled out any shunt blockage. The patient was taken up for an exploratory laparotomy with a plan for external drainage of the pseudocyst along with placement of the catheter tip in a separate intra-abdominal site.

Intra-operative findings revealed a pseudocyst involving the lesser sac with dense adhesions and a catheter coursing over the wall of the cyst. The shunt was carefully dissected out and isolated and found to be functional. CSF was collected for routine and microscopic examination and culture sensitivity. The pseudocyst contained about 750 ml of serous non-infected fluid with minimal debris, and was drained through the most dependent part. The VP shunt was replaced in the general peritoneal cavity in a separate quadrant.

The postoperative course of the patient was uneventful. The drain was removed on 14th postoperative day after progressively decreasing drain output and serial USG examinations, which confirmed the decreasing size of the collection. The drain fluid amylase was constantly low, CSF and microscopic examination were unremarkable and culture did not reveal any growth. Patient was discharged after 15 days stay in the hospital and was asymptomatic on serial follow-up.

Abstract

Ventriculoperitoneal shunt (VP shunt) related cerebrospinal fluid (CSF) pseudocyst is an uncommon complication in the paediatric age group. This complication is extremely rare in adults. We report a 63 year old man who presented with such a pseudocyst. Patient is asymptomatic after surgical management.
Discussion

Peritoneal CSF pseudocysts are a rare but important complication of VP shunt surgery, with a reported incidence of < 1%. Most of the reported cases are of paediatric age group or early adolescence. Only 3 cases of CSF pseudocysts in adults have been reported. Presenting complaints are usually local abdominal symptoms and signs although symptoms of raised ICP may be present. Intestinal obstruction and abdominal organ dysfunction have also been reported. Diagnosis is usually readily made by a USG and a CT scan of the abdomen.

The aetiology is usually a low grade sepsis or infection with microaerophilic or anaerobic organisms although it doesn’t account for all the cases. In absence of infection, it has been hypothesized that pseudocysts could result from an inflammatory reaction to either intra-abdominal catheter or some component of the CSF, with CSF proteins being most commonly implicated. However cases have been reported with no infection and normal or even low CSF protein levels. Further, this complication is rare in children with subduro-peritoneal shunt inspite of increased protein levels. Multiple shunt revisions are also reported to be a predisposing factor.

Various management modalities have been successfully employed. CSF diversion, either by repositioning of the shunt tip or external drainage, forms the crux of successful management. Spontaneous resolution following the same has been observed in certain series to approach 50%, with no recurrence even after replacement of the shunt in the peritoneal cavity. Paracentesis or open drainage of the pseudocyst may be required in the remaining cases. In cases of recurrences, conversion into a ventriculo-atrial or ventriculo-cisternal shunt may be necessary. Surgical excision of the pseudocyst maybe required in cases where meningeval tuberculosis was the cause of the hydrocephalus for which shunt was done.

Laparoscopic repositioning of the shunt tip with drainage of the pseudocyst has been proposed as a minimally invasive modality for the treatment of this condition with comparable short term results.

Morbidity and mortality are low in most reported series.

References