

Recurrent cerebrospinal fluid pseudocyst: A rare case and its treatment

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Abstract: Pseudocyst formation is a rare complication after Ventriculo-peritoneal shunts. The abdomen has a tendency to get colonized by organisms repeatedly. Our 10 month old patient had developed a CSF pseudocyst after VP shunt surgery, for which cyst excision with shunt replacement was done. This child again came with abdominal pain and distension 3 months after surgery. Investigations revealed a recurrence of pseudocyst. The cyst was re-excised and abdominal end of shunt placed retro-splenic. The patient has not had a recurrence since then.

Keywords: Cerebrospinal fluid, Psuedo cyst, recurrent

INTRODUCTION

A 10 month old male child came to us with complaints of pain in abdomen and epigastric fullness and repeated episodes of vomiting, with a visible lump in the epigastric region. Patient was operated for cerebrospinal fluid (CSF) pseudocyst 1 month back for which excision of cyst and replacement of catheter above liver was done. In a rare scenario, he had now developed recurrence and was managed by again excising the psuedocyst. After that, he hasn't had any complaints till date.

CASE REPORT

A 10 month old male child came to us with complaints of pain in abdomen and fullness of epigastrium since last 5 days. There were also repeated episodes of vomiting. There was a visible lump in the epigastric region reaching upto the left hypochondriac region. Patient had been operated for cerebrospinal fluid (CSF) pseudocyst 1 month back for which excision of cyst and replacement of catheter above liver was done. Patient had been previously operated for lumbosacral myelo meningocele on second day of life and subsequently operated for Ventriculo-peritoneal shunt at 1 month of age. Patient had shunt infection once for which right VP shunt was removed and left VP shunt inserted.

All routine investigations were done. Routine laboratory investigations were normal. Shunt series was done and the shunt was seen in situ. On ultrasonography of abdomen, there was a collection of approximately 8.6x6.7x7.5cm in the peritoneal cavity, just below the stomach, extending to the spleen. There were fine internal echoes within. Ultrasonography of skull revealed no internal echoes. There was mild to moderate dilatation of both lateral ventricles.

The patient was explored through the previous laparotomy incision. A large 8x7cm cyst seen adherent to greater curvature of stomach and some of the jejunal bowel loops. The abdominal end of the shunt was visible inside the cyst cavity (Fig 1). 30 ml clear fluid was aspirated from the cyst. The cyst was separated from the jejunal loops and the stomach and excised en mass. The shunt was separated and cleaned. Clear CSF was seen to come from it. The abdominal end was placed above and behind the spleen after confirming that routine and microscopy of CSF showed no infection. A thorough peritoneal wash was given before closing the abdomen. Patient was given intravenous antibiotics for 5 days and discharged without nay complications.



Fig 1: Abdominal end of shunt inside the pseudocyst

DISCUSSION

A CSF pseudocyst is characterized by a collection of fluid around the abdominal end of VP shunt, surrounded by a wall consisting of fibrous tissue without an epithelial lining [1]. The incidence of pseudocyst formation varies from 0.33% to 0.68% [2, 3]. It is believed that the most of the times, the abdomen loses its absorptive capacity due to adhesions and subclinical infections. The most common bacteria implicated are *Staphylococcus epidermidis* or *aureus* and *Propionibacterium acnes* [4, 5]. Some researchers suggest that the finding of a pseudocyst itself indicates low-grade infection which may be transient or latent [6].

Ultrasonography (USG) is an easy way to detect an intra-abdominal pseudocyst. It can delineate the size, location and extent of the cyst as well as presence/absence of any septations (railroad sign and fluid-echo line) [7-9]. CT is also a good modality, subject to its availability and cost-effectiveness [10].

The treatment options include computed tomography (CT) or USG guided aspiration of cyst contents. It has given decent results but there are always chances of recurrence of the cyst [7]. Surgical modalities of treatment include repositioning the peritoneal end of shunt in a different abdominal quadrant, shunt removal, external ventricular drainage and conversion to either Ventriculo-atrial or Ventriculo-pleural shunt [1, 4]. In the presence of infection, shunt externalization is appropriate. If there is no documented infection, shunt revision alone can suffice. Removal of the catheter from the cyst can lead to spontaneous resolution of the pseudocyst and subsequent placement

of the ventricular end in the abdominal cavity can lead to a functional VP shunt again [6].

In our case, the patient had already undergone pseudocyst excision and repositioning of abdominal end of catheter once. It was placed above the liver. In this setting of recurrence, it was decided to check the CSF from peritoneal end for infection. It was grossly found to be clear and routine and microscopic examination did not show infection. Hence it was decided to place the peritoneal end in the abdomen itself, but in a different place- behind the spleen. The patient has not had any repeat infections or any abdominal complaints for more than a year now. So this treatment of placing the catheter above the spleen to prevent recurrence has worked in our case.

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