

Intestinal Obstruction Due to Adhesions around VP Shunt Tip in a Case of Pyogenic Meningitis

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Abstract

Small bowel obstruction caused by adhesions around the VP shunt is a rare and severe complication of the shunt which may require laparotomy and resection of bowel. We report a case in which small bowel obstruction was caused by adhesions around the VP shunt.

Keywords: Intestinal obstruction; Adhesions; VP shunt

Case Report

An infant was admitted to the emergency department with abdominal distension and repeated vomiting. She had been operated for meningomyelocele with non communicating hydrocephalus in the newborn period. Ventriculo-peritoneal shunt was inserted 4 weeks after birth. A base line abdominal radiograph showed dilated small bowel loops. An ultrasound was requested which revealed tip of the VP shunt in the pelvis with dilated small bowels loops and absent peristalsis. Transition point between the dilated and collapsed loops was seen in close proximity to the VP shunt tip. Diagnosis of small bowel obstruction was made. Operative findings revealed that the small bowel obstruction was due to adhesions at the VP shunt tube tip for which adhesiolysis was done.

Discussion

Ventriculoperitoneal shunt surgery is the most commonly used technique for the management of hydrocephalus in paediatric cases [1].

Distal end of the shunt catheter is usually placed in the peritoneum. This procedure is associated with various complications. The most common complications are shunt infection and obstruction due to the ventriculoperitoneal shunt device [2,3]. Others complications are intra-abdominal ascites, regional cyst formation, hydrocele, intestinal injury, intestinal obstruction, mechanical blockage of the distal end by omentum causing shunt failure [2], formation of abdominal pseudocyst. Shunt catheters can migrate to a number of locations like anus, scrotum, urethra umbilicus, or mouth or it may migrate to internal organs. Spontaneous bowel perforation is a rare complication of VPS surgery (0.01-0.07%) [4], although some studies have reported higher rates (2.51%) [5]. The sharp tip at the distal end of the catheter is blamed for higher complication rates. It should be kept in mind that this is a rare but a highly mortal complication (15%) [6]. Diagnosis of the intra-abdominal complications of VP shunt needs thorough physical neurologic and careful abdominal examination. Imaging modalities

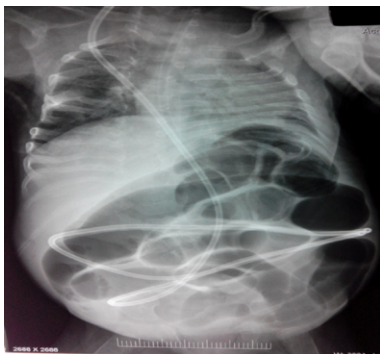


Figure 1: Dilated bowel loops with air fluid levels in the plain abdominal X-ray.



Figure 2: Ultrasound image showing shunt tube in the subcutaneous plane and entering the abdominal cavity.



Figure 3: Ultrasound image showing dilated and collapsed small bowel loops.

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Received October 07, 2014; Accepted November 18, 2014; Published November 21, 2014

Citation: Priyanka Arora, Gayatri Madhukar Autkar, Ajay Kumar, Shephali Shrikant Pawar, Avinash A Gutte (2014) Intestinal Obstruction Due to Adhesions around VP Shunt Tip in a Case of Pyogenic Meningitis. OMICS J Radiol 3: 172. doi:10.4172/2167-7964.1000172

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Figure 4: Ultrasound image showing dilated and collapsed small bowel loops around VP shunt tip.

like plain radiograph, ultrasound and computed tomography are of immense help. Plain radiographs help to locate intraperitoneal position of catheter and status of bowel loops. Ultrasound and CT give a better and exact idea of the etiology (Figures 1-4). A high index of suspicion along with optimum clinical assessment and imaging will improve the management of shunt complications and decrease morbidity.

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