Ventriculoperitoneal shunt abdominal complications

- Integration of continuous lumbar drainage and third-generation EGFR-TKI in managing leptomeningeal metastasis-induced life-threatening intracranial hypertension: a case report
- Giant abdominal cerebrospinal fluid pseudo cyst: A case report
- Two rare complications of cerebrospinal fluid shunting: A rare case report from Syria
- Sclerosing peritonitis and peritoneal pseudocyst: a rare cause of surgical acute abdomen in peritoneal dialysis patients-diagnostic and therapeutic insights
- Management of sterile abdominal pseudocysts in the context of ventriculoperitoneal shunts: a systematic review
- Scrotal migration of the peritoneal catheter of a ventriculoperitoneal shunt: A case series in a single center
- Unravelling a pediatric enigma: coexisting retroesophageal right subclavian artery and congenital colonic stenosis masquerading as cow's milk protein allergy and ileus in a neonate
- The risks of omitting routine postoperative imaging after insertion of new ventricular shunts in children: a 10-year retrospective cohort study

Abdominal complications include abdominal pseudocyst, peritonitis, ascites, bowel and abdominal wall perforation, and inguinal hernias.

Abdominal complications are reported in 5–47 % of ventriculoperitoneal shunt cases [1) 2)].

Ascites

Abdominal pseudocyst

Bowel perforation

Hydrocele

Shunt extrusion

Shunt migration

Cerebrospinal fluid fistulas

Viscous perforations

Protrusion of the catheter from the anus

Spontaneous knotting of the peritoneal catheter is a rare complication of the VP shunt [3)].

Peritoneal catheter knot formation

Liver abscess

Pyogenic liver abscess in Taiwan is most commonly due to Klebsiella pneumoniae infection in diabetic

patients, and less frequently due to biliary tract infections. Liver abscess caused by ventriculoperitoneal (VP) shunt is very rare. We report a case of liver abscess caused by methicillin-resistant Staphylococcus aureus (MRSA), which developed as a complication of an infected VP shunt. A 53-year-old woman, who had shad a VP shunt implanted 3 months previously for hydrocephalus due to intracranial hemorrhage, presented with fever off and on, drowsiness and seizure attacks for 1 week. Computed tomography (CT) of the brain showed only mild right-sided hydrocephalus, and was negative for intracranial hemorrhage and intracranial mass. Analysis of cerebrospinal fluid showed significant pleocytosis and hypoglycorrhachia. CT scan of the abdomen disclosed a huge abscess in the right lobe of the liver. Cultures of both the cerebrospinal fluid and aspirated liver abscess isolated MRSA. The patient was treated with intraventricular and intravenous vancomycin, intravenous teicoplanin and oral rifampicin, followed by oral chloramphenicol and rifampicin. Percutaneous drainage of the liver abscess and externalization of the VP shunt were performed. The liver abscess had resolved almost completely on ultrasonography after 2 weeks of therapy. Liver abscess in patients with a VP shunt should be considered a possible abdominal complication of the VP shunt, and may be caused by unusual pathogens. Diagnosis requires CT scan and direct aspiration and culture of the liver abscess. Treatment requires management of both the liver abscess and the infected shunt [4)].

Abdominal adhesions

Abdominal adhesions

Liver pseudocyst

The formation of a liver pseudocyst is a rare occurrence, and its mechanisms are still largely unknown.

Mallereau et al. reported the case of a 69-year-old woman with a ventriculoperitoneal shunt, inserted for the management of hydrocephalus after aneurysmal subarachnoid hemorrhage, presenting to the Accident and Emergency for acute cholecystitis. Besides confirming the diagnosis, an ultrasound investigation revealed the presence of a hepatic cyst. Conservative treatment with antibiotics and non-steroidal anti-inflammatory drugs was performed with favorable outcomes and resorption of the cyst. Interestingly the patient kept on presenting several similar episodes managed well by non-steroidal anti-inflammatory drugs alone, each of them associated with transient symptoms and signs of ventriculoperitoneal shunt malfunction. Computerized Tomography brain and lumbar puncture were normal, whereas the CT abdomen showed the ventriculoperitoneal shunt distal catheter passing through the hepatic cyst. Given the ventriculoperitoneal shunt malfunction, in the context of an infective/inflammatory process, a conversion of the ventriculoperitoneal shunt into a ventriculoatrial shunt was carried out with a successful clinical outcome.

Based on current literature they propose a clinical and radiological classification of such pseudocysts related to ventriculoperitoneal shunt. Clinical presentation, diagnostic findings, and management options are proposed for each type: purely infective, spurious (infective/inflammatory), and purely inflammatory. In the absence of system infection, a simple replacement of the distal catheter seems to be the best solution [5)].

References

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