A case of recurrent ascites secondary to Ventriculoperitoneal shunt in a patient with Idiopathic Intracranial Hypertension

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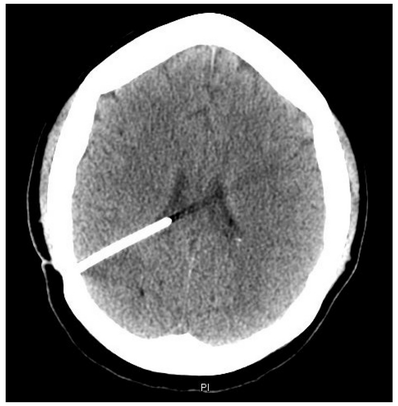
Background

- **Idiopathic Intracranial Hypertension (IIH)** is a rare diagnosis affecting approximately 0.9–3/100,000 adults, mostly females of childbearing age with obesity.
- Surgical intervention is usually indicated in cases that prove refractory to conservative measures (i.e. weight loss and acetazolamide) or those with progression of papilledema and visual deficit.
- **Ventriculoperitoneal shunt (VPS) is the preferred internalized cerebrospinal fluid diversion method.**



Case

Presentation: A 33-year-old female smoker with obesity, hypertension, and IIH s/p VPS presents to the ED with increased abdominal distention and discomfort along with shortness of breath. She underwent a paracentesis two weeks prior for new ascites. Paracentesis showed no malignant cells. She had no family history of GI pathology and no risk factors for viral hepatitis. She started noticing re-accumulation of fluid over 2 weeks that did not improve with prescribed furosemide. She had no other symptoms including fevers, chills, or neurological symptoms.

Physical exam: Ascites with a normal neurologic exam.

Labs: Liver function tests were normal. Negative hepatitis serologies.

Imaging: CT abdomen and pelvis showed an unremarkable liver and VPS catheter without kinking. Pelvic ultrasound was unrevealing except for an ovarian cyst.

Repeat paracentesis: SAAG 0.8, WBC 650 cells/ul, and only 10% PMN. Culture of peritoneal fluid was positive for Cutibacterium acnes

Treatment plan: She completed an antibiotics course. She was discharged to follow up with gastroenterology. She underwent a removal of the distal (peritoneal) catheter of the VP shunt that led to resolution of her ascites.

Discussion

- **CSF ascites is one of the rarest intra-abdominal complications of VPS.**
- **Only 29 cases have been described in the literature and only 6 of them were in adults.** In such cases, VPS were removed and Ventriculo-pleural or Ventriculo-atrial shunts were placed.
- While pathophysiology behind IIH is hypothesized to be due to the inability of CSF to be reabsorbed by arachnoid granulations and extracranial lymphatics, there is no satisfactory explanation in literature regarding the pathophysiology of CSF ascites due to VPS.
- **It is suspected that our patient's infected VPS caused device malfunction leading to ascites.**