Case History

History of Present Illness

- An 11 year old 36 kg otherwise healthy male presented with a history of echinococcal cysts in his right lung and liver. The patient lived in Jordan since 2008, where he presented with chest and abdominal pain. Imaging revealed echinococcal cysts in his right lung and liver.

- He underwent removal of the pulmonary cyst in Jordan and was started on albendazole. He was told to return 3 months later for resection of the liver cyst.

- The patient, however, returned to the United States where he presented to our ED with abdominal pain, intermittent fevers, vomiting, and diarrhea. During evaluation by the infectious disease, surgery, and hepatology teams, MRI revealed that the left lobe of the liver was replaced by a double walled cystic lesion measuring 10.7 x 8.0 x 9.0 cm. One and a half months later, the patient returned for left hepatectomy.

Preoperative Course

- Preoperative labs: WBC 5.7, Hgb 11.9, PLT 255, INR 1.2. Normal glucose, creatinine, LFT. Type and cross 2 units each of PRBC, platelets, and FFP on hold for OR.

- Patients sensitized to the hydatid cystic fluid can experience pruritus and anaphylactic shock if a leak is present.

Intraoperative Course

- In the OR, standard ASA monitors were placed prior to uneventful general anesthesia. 
- Two 18g peripheral IVs, radial arterial line, 5.5 cuffed ETT were inserted uneventfully. Thoracic epidural catheter placed at T7-8. General anesthesia was maintained with sevoflurane.
- 1500 mL crystalloid, 250 mL 5% albumin were administered. EBL 200 mL. Blood gas analysis was monitored and neither blood products nor pressors were required.
- He tolerated the surgery well without signs of anaphylactic reaction or hemodynamic instability.
- After the 6 hour case, the epidural catheter was buried with bupivacaine and the patient was extubated.
- He was transferred to PACU then transplant stepdown unit on room air.

Postoperative Course

- Pain managed well by thoracic epidural infusion of bupivacaine 0.1% and clonidine 0.4mcg/mL and morphine PCA.
- On post-operative day 4, due to a bile duct leak, he return to the OR for Roux-en-Y hepatojejounostomy.
- Discharged home on hospital day 11 on regular diet and a 3-month course of PO albendazole.

Discussion

- Echinococcosis can cause numerous hydatid cysts throughout the body which results in unique anesthetic considerations during surgical removal.
- Sensitization to the cystic fluid can result in intraoperative anaphylactic shock if leakage or rupture occurs.
- Intraoperative vigilance for allergic reactions, meticulous isolation of the cyst, prevention of exposure to cystic fluid by the surgical team, large bore IV access for rapid administration of fluids and blood products and the availability of medications such as epinephrine, antihistamines and pressors are all required to avoid or treat an anaphylactic reaction.
- During hepatectomy, hypotension is common due to hypovolemia from hemorrhage, third space volume losses, resuscitation with citrated blood products, coagulopathy, and mechanical compression of IVC or right ventricle.
- Among the treatment options, which include medical, percutaneous, and surgical interventions, the optimal treatment for this disease varies in a case by case scenario as clinical trials comparing all of the available modalities do not exist.2
- Close perioperative communication with the surgical team and medical consultants is vital.

References