Management of a Splenic Hydatid Cyst in Pregnancy – A Case Report

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Background: Splenic cysts are rare with an incidence of 0.07%. Less than 19 cases of splenic cysts in pregnancy have been reported. Very few are related to hydatid disease - caused by the parasite Echinococcus granulosus:

- Endemic in Central Asia [1] – common in populations near livestock
- Dogs are the definitive host, where tapeworms reside in the intestine and release eggs into the faeces
- Ingested eggs infect sheep and humans as intermediate hosts
- Hydatid cysts mainly affect the liver (60%), lungs (30%) and rarely, spleen [12].

Classification of splenic cysts:
- Type 1 (primary/true), with an endocystic epithelial lining
  - Parasitic or non-parasitic splenic cysts (congenital or neoplastic)
- Type 2 (secondary/pseudocysts) without an epithelial lining
  - Related to splenic infarction (trauma, infection, sickle cell disease) [8]

Cyst rupture is reported at a 4.5% rate in pregnancy and results in:
- Haemorrhage
- Peritonitis
- Sepsis
- Shock
- Anaphylaxis if related to hydatid disease [9,10]

Giant splenic cyst with expectant management in pregnancy: A case report and review of the literature.

Literature:
- Surgical management suggested for cysts > 5cms or symptomatic
- Previous reported management:
  - Conservative - monitoring or percutaneous aspiration +/- sclerosis, thought recurrence is high.
  - Cyst fenestration +/- cromomexopy or marsupialisation
  - Partial or complete splenectomy.

A literature review identified 14 cases of splenic cysts in pregnancy with 4 cases caused by hydatid disease [1-14]:
- SVD at K39, no reported complications
- Bakdik et al (2018): Multiparous 37 y.o. at K5 with incidentally finding of multiple hepatic + splenic cysts, underwent percutaneous drainage and albendazole treatment. Complicated only by biliary fistula which required nil intervention.
- SVD at K38 and USS at 2 years showed cysts 50% smaller in size [3]

All of the splenic cyst cases (not all hydatid):
- 4 x percutaneous drainage with 3 reported complicating infection and re-accumulation needing further management (fenestration + omentomexopy)
- 6 x open splenectomy (mostly earlier reports)
- 2 x laparoscopic splenecenoly
- 3 x cystectomy
- 1 x completely conservative management w/ monitoring
- Regard, delivery had 7 x SVD at term, 5 were not reported and 1 had a classical CS at K34 (for a 28 cm cyst) [1-14].

Case Study:
- 29 year old G4P3 (3xSVD) reviewed in a regional hospital
- Splenic cyst dx. 1 month before pregnancy
- Investigated for LUQ pain present for 6 years but worsening past 12 months
- Worse after eating & walking.

Patient Background:
- Refugee from Iraq
- Previous close contact with livestock including sheep and dogs
- No history of: recent illness, mononucleosis, trauma or Fhnx lymphoma
- cFTS not done. Morphology Normal. Normal serial growth scans
- Antenatal Hx. otherwise unremarkable, PMHx/Ptsurg Hx - nil (neoplastic)
- BMI 22, no appreciable palpable mass, tender LUQ

Investigations: Echinococcus antibody titre = 1.64 (titre of 16 – 512 suggests Echinococcus granulosus).

CT (pre-pregnancy): 1x16x16cm well defined cyst, homogenous fluid density, displacing left kidney.

MRI Spleen at K13: 10.5 x 9.3 x 10.0cm splenic cyst (Figure 1 & 2).

Management:
- Albendazole for 1 month until identified pregnancy at K5.
- MDT meetings between Infectious Diseases, General Surgery, Anaesthetic, Paediatrics and referral to a tertiary centre.

The obstetric background suggested a high chance for uncomplicated vaginal delivery. The literature was reviewed by the treating teams with no clear risk or benefit to Caesarean section and patient preference for vaginal delivery.

Delivery: Induction of labour at K39 at a tertiary centre with artificial rupture of membranes and oxytocin infusion. Operating staff and theatre were on standby. Reviewed by obstetric, ID and surgical teams prior to a clear plan in case of complications.

- If anaphylaxis = adrenaline, steroids, antihistamines (no clear role for steroid prophylaxis)
- If cyst rupture = stat Albendazole + Praziquantel + Immediate OT

Recommended on Albendazole for minimum 3 months to reduce parasitic load prior to consideration of surgery - aspiration and/or splenectomy.

Summary: This would be the 3rd reported case in literature of conservative management of a large splenic hydatid cyst in pregnancy. The antenatal course was uneventful with a positive outcome. This case highlights the importance of a multidisciplinary team approach.