

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
- Ingested eggs penetrate intestinal wall, migrate via portal circulation to the liver and disseminate
- 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]

Signs/symptoms are non-specific:

- **70% are asymptomatic**, often incidentally found
- Abdominal mass/distension
- LUQ pain
- Nausea, vomiting, early satiety, weight loss [6-8]

Cyst rupture is reported at a 4.5% rate in pregnancy and results in:

- Haemorrhage
- Peritonitis
- Sepsis
- Shock
- **Anaphylaxis if related to hydatid disease** [8,10]

Perinatal mortality rate is as high as 70% if rupture occurs.

Maternal mortality rates of 10% associated with splenectomy in pregnancy [14].

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Literature:

- Surgical management suggested for cysts > 5cms or symptomatic
- Previous reported management:
 - Conservative - monitoring or percutaneous aspiration +/- sclerosis, thought recurrence is high.
 - Cyst fenestration +/- omentopexy 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]:

- *Manterola et al* (1997-2000): 2 cases, **uncomplicated surgical resection of cysts**. Did not specify mode of delivery [11]
 - *Can et al* (2002): Multiparous 32 y.o. at K25 with a palpable LUQ mass and 20 cm cyst underwent **laparotomy for splenectomy at K26** and Albendazole postpartum [4]
 - **SVD at K39**, no reported complications
 - *Bakdik et al* (2018): Multiparous 37 y.o. at K5 with incidental 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]
- Of all splenic cyst cases (not all hydatid):
- 4 x percutaneous drainage with 3 reported complicating infection and re-accumulation needing further management (fenestration + omentopexy)
 - 6 x open splenectomy (mostly earlier reports)
 - 2 x laparoscopic splenectomy
 - 3 x cystectomy
 - 1 x completely conservative management w/ monitoring
 - Regarding delivery, 7 had SVD at term, 5 were not reported and 1 had a classical CS at K34 (for a 28 cm cyst) [1-14].

Latest case (2021): A primiparous with an 18cm cyst – managed with IOL and delivery **in the operating theatre** with all staff, including a general surgeon, on standby until birth [8]. Delivery was **vacuum-assisted delivery to reduce duration of increased intra-abdominal pressure**.

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Case Study:

- 29 year old G4P3 (3xSVB) 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 FHx. lymphoma
- cFTS not done. Morphology Normal. Normal serial growth scans
- Antenatal Hx. otherwise unremarkable, PMHx/PSurg Hx – nil
- BMI 22, no appreciable palpable mass, tender LUQ

Investigations: Echinococcus antibody titre = 1:64 (titre of 16 – 512 suggests *Echinococcus granulosus*).

CT (pre-pregnancy): **15x18x10cm** 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:

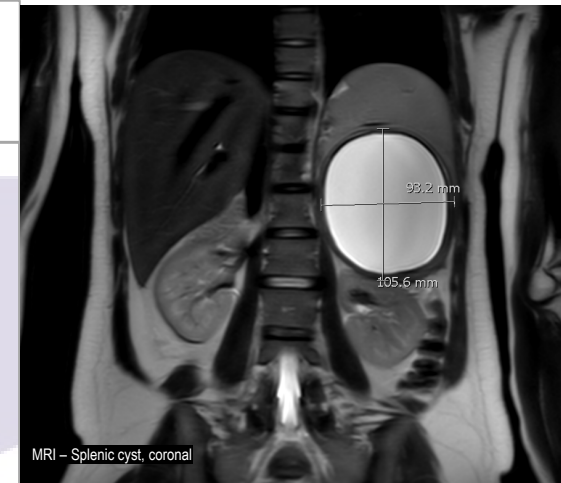
- Albendazole for 1 month until identified pregnancy at K5.
- MDT meetings between Infectious Diseases, General Surgery, Anaesthetic, Paediatrics and referral to a tertiary centre.

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.**

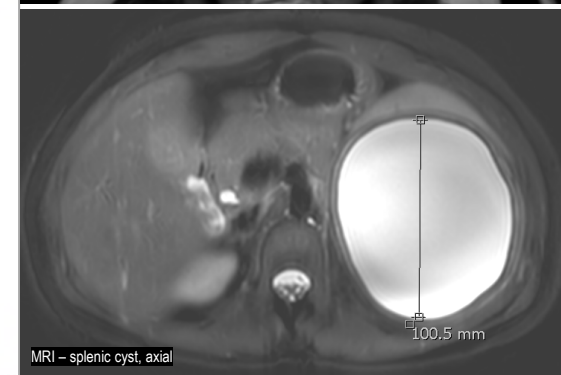
Delivery: Induction of labour at K39 st a tertiary centre with artificial rupture of membranes and oxytocin infusion. Operating staff and theatre were on standby. Reviewed by obstetric, ID and surgical teams prior with a clear plan in case of complications.

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

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MRI – Splenic cyst, coronal



MRI – splenic cyst, axial

Delivery:

- 4 hour labour → uncomplicated SVD of a well infant
- EBL 200 mL
- Well post-partum, discharged home day 2

Follow up: Surgical review at 8 weeks postpartum revealed ongoing pain but no signs of gastric outlet obstruction or palpable splenomegaly.

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.