Case scenario

A twenty-five year old female presented with intermitted upper abdominal pain for two years.

She is a villager and there was history of weight loss and off/on history of fever.

There was no previous hospitalization and surgical interventions.

No significant family history could be found.

There was history of keeping sheep and Goats at home.

On clinical examination patient was a fibrile vital were stable, systematic review was normal.

Abdominal Examination: 4X4 cm mass firm in consistency in Epigastric area moves with respiration slight tenderness in epigastric area.

There were no visible pulsation or peristaltic movements on it.

What is

- **differential diagnosis**
- **causative agent and its life cycle**
- **Diagnosis and Treatment**
- **Surgical Approach**

DIFFERENTIAL DIAGNOSIS

- DDx of Epigastric masses
  1. Hepatomegaly (left lobe) + mass
  2. Pancreatic Abscess or pseudocyst
  3. CA stomach

- DDx of Liver masses

In this patient, considering everything in the scenario

① Hydatid Liver Disease

- Hx contact with sheep
- chronic fever ? pain
- wt loss

② Hepatic Hemangioma

- F:M = 5:1
- most common benign liver tumor

③ Focal Nodular Hyperplasia

- F > M
- 2nd most common after Hemangioma

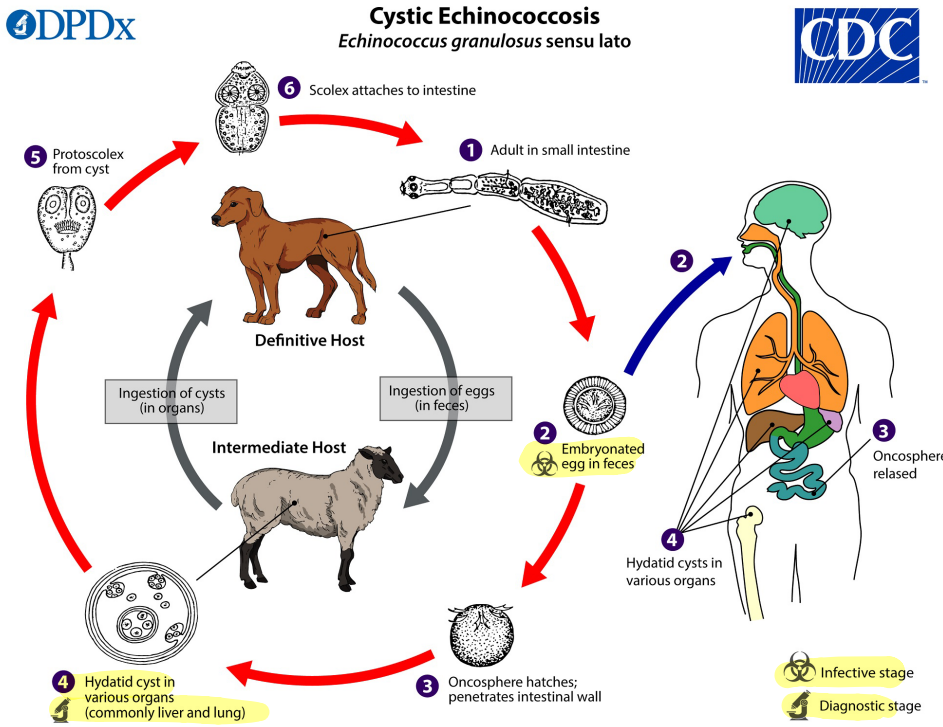
④ Hepatic Adenoma

- f > M
- oral contraceptives +++

⑤ HCC — unlikely in this patient

CAUSATIVE AGENT & IT'S LIFE CYCLE

~ Echinococcus granulosus



∓ The liver is the site of 75% of hydatid cysts.

① Dogs infected with ova as a result of eating sheep offal → ② Tapeworm develops in the dog's small intestines → ③ ova discharged in dog feces

⑤ ova penetrates the stomach wall to invade portal tributaries & pass into liver

⑦ Humans & Sheep ingest the ova in contaminated vegetables

⊕ Hydatids may pass on to the lungs, brain, bones & other organs.

∅ The disease is common in sheep rearing communities e.g. Australia, Iceland, cyprus, Southern Europe, africa & wales.

Mediterranean countries

vs.

INACTIVE CYST

- Asymptomatic mass
- may be a post-mortem finding

ACTIVE CYST

- may rupture into peritoneal cavity - pleural cavity - alimentary tract or Biliary tree
- may become infected (fever, pain, tenderness)
- produce obstructive jaundice

DIAGNOSIS ?

Clinical + → TREATMENT

① plain abdominal x-ray

- may show clear zone (produced by the cyst)
- may show flecks of calcification in the cyst wall.

② Abdominal USS

- localization of the cyst

(multilocalated cyst) +/- posterior shadowing

↳ + supported with CT scan ③

↳ floating membranes +/- calcification (dropping lily sign)

④ Serology [ELISA]

- depends on the sensitization of patient to hydatid fluid, which contains a specific antigen, the leakage of which induces antibody production.

↳ Anti-echinococcus antibodies (IgG)

⑤ Eosinophil count

non-specific eosinophilia, which should arouse suspicion.

TREATMENT

① A calcified cyst should be left alone.

② other cysts should be treated to avoid complications

Medical Rx

① Albendazole or mebendazole

~ may result in shrinkage or disappearance of the cyst

[~ failure of Medical therapy OR ~ complications]

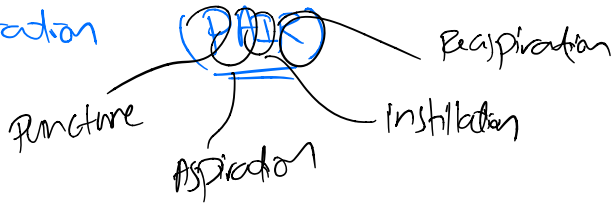
INDICATION FOR SURGERY

~ Bailey ? Love's

(A) SURGICAL APPROACH

(A) PERCUTANEOUS TREATMENT of Hydatid cyst
safe ? effective

P ① an initial course of albendazole
A ② Puncture of the cyst under image guidance
I ③ Aspiration of the cyst content
R ④ Instillation of hypertonic saline into the cyst cavity
? Reaspiration



failure of PAIR ? medical Rx

(B) SURGICAL INTERVENTION
Ranges from
① Liver Resection
② cyst excision (local excision)
③ Deroofing with evacuation

Avoid contaminating the peritoneal cavity with Active Hydatid daughters by :-

① continuing therapy with albendazole

② Adding paraprotective praziquantil

③ packing of peritoneal cavity with 20% hypertonic saline soaked packs

④ Instilling 20% hypertonic saline into the cyst before it is opened.

⑤ Biliary communication should be sought & sutured.

Residual cavity may become infected ↓

omentoplasty

~ packing the space with pedicled greater omentum

~ also reduces bile leaks

If calcified cysts may well be dead if any doubt ↳ F/U with USS

Active cysts will :-

① grow in size

② Become more superficial

P.S.

- Rupture of daughter hydatids into the biliary tracts → obstructive jaundice OR cholangitis

† this is a more common cause of jaundice rather than compression by the cyst itself

Rx → endoscopic clearance prior to cyst removal

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