Cystic Disease of the Liver
Work Up and Management

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The Case

• 73F presents to clinic after diagnostic laparoscopy at OSH.
  • Known “liver mass” for past 2 years.
  • 3 months of worsening abdominal distention, pain, early satiety
  • POD 3 s/p attempted laparoscopic drainage at OSH was aborted, patient referred to KCHC Surgical Oncology Service

• PMH: HTN
• PSH: None
The Case

• Exam
  • Afebrile, VSS
  • Well nourished, healthy appearing
  • Significant abdominal distention secondary to very large, palpable right sided abdominal mass
The Case Continued

• Social / Family history: non-contributory
• Labs
  • Total Bilirubin: 1.6-1.8 mg/dl
  • Alkaline Phosphatase: 157-219 U/L
  • Transaminases and liver function tests WNL
• Imaging......
Surgery

• Laparoscopic cyst aspiration and marsupialization of dominant right liver cyst

• 2000cc serous fluid was aspirated

• Free cyst wall was resected and sent for pathology

• EBL 100cc
Pathology

“Simple cyst lined by flat and cuboidal cells. Adjacent liver with fibrosis hepatic steatosis and mild chronic inflammation“
QUESTIONS?

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CYSTIC DISEASE OF THE LIVER
Epidemiology

• Prevalence of Cystic Disease of the Liver is approximately 5%

• 90% of lesions are simple, asymptomatic, and incidentalomas

• Female : Male = 4:1
When do we care?

• Symptoms:
  • Mass effect / compression leads to abdominal pain, SOB, early satiety +/- jaundice
  • Compromised Liver Function - coagulopathy etc (rare, PCLD)
  • Fever, chills, systemic response due to infectious etiology

• Rule Out Malignancy
  • Complex, abnormal appearance of lesion on imaging
  • Associated with constitutional symptoms (night sweats, weight loss etc)
WORK UP

Imaging, imaging, imaging
Ultrasound

90% sensitive and specific for answering the following question:

SIMPLE OR COMPLEX ?
CT Scan

- Determine size, location and relationships to vasculature, biliary tree and other viscera.
- Should be performed with IV contrast
  - Arterial, portal venous and venous phases
- Low density fluid (<10 hounsfield units) suggests serous fluid
- High density fluid, septations, irregular or thickened walls should raise concern for malignancy.
- Smaller cysts are not well distinguished from small solid masses.
SIMPLE CYSTS
Simple Cysts

Singular

Simple epithelium: cuboidal / columnar

Secretes serous fluid

Arise from aberrant intrahepatic bile ducts
Management

• **NO MALIGNANT POTENTIAL**

• Intervene?
  • Symptoms
  • Diagnostic Ambiguity

• Options?
  • Aspiration +/- sclerosing agent
  • Marsupialization / Fenestration
  • Wedge / Formal Liver Resection
Aspiration

- 100% recurrence w/out sclerotherapy
  - Acute Pain Relief
  - Biochemical Analysis of Fluid
- 3% Saline / tetracycline / 95% ETOH
- Contraindications:
  - Communication with bile duct
  - Malignancy Suspected
- Recurrence Rate 5-10% w/sclerotherapy
- Increased Morbidity for future surgery.
- Risk of infection
Marsupialization

- FIRST LINE TREATMENT
- Open or Laparoscopic Options
- Aspiration
- Deroofing
- Omental Plomb
- Fulguration
Polycystic Liver Disease
PCLD Continued

• Autosomal Dominant Polycystic Liver Disease (ADPCLD)
  • Prevalence: 0.01%
  • Mutation Chromosome 19: Hepatocystin

• Autosomal Dominant Polycystic Kidney Disease (ADPKD)
  • Mutation Chromosome 4 or 16: Polycystin
    (likely our patient)
Gigot Classification
Cystic Neoplasms of the Liver
Cystadenomas

- Rare: < 5% of all hepatic cysts
- Females, in 4th or 5th decade of life.
- Classically:
  - Multilocular
  - Lined by columnar epithelium
  - Dense ovarian like stroma
  - Segment IV
Biliary Cystadenomas

- More Recently
  - Unilocular
  - Cuboidal Epithelium
  - WITHOUT ovarian stroma

- Males & Females
- Communicate with Biliary Tree
- 3 layers
  - Epithelium
  - Mesenchymal Stroma
  - Outer collagen connective tissue.
All Cystadenomas

- All lined with mucin secreting epithelium

- Appear Complex
  - Septations
  - Mural nodularity

- No reliable fluid markers
  - CEA / CA 19-9

- Have malignant potential

- Resection
Cystadenocarcinomas
Take Home Points

• Majority of cysts in the liver are simple, benign, asymptomatic.

• Work up of symptomatic or suspicious cysts is predominantly radiographic.

• Marsupialization / fenestration is first line therapy for simple cysts requiring intervention.

• Neoplastic lesions of Liver are rare, and suspicious lesions should be resected given malignant potential.
Thank You