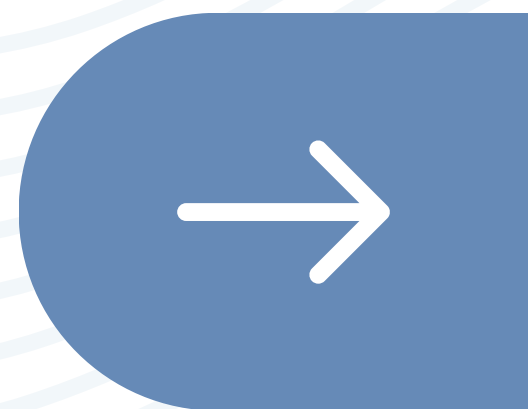


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PYOGENIC LIVER ABSCESS



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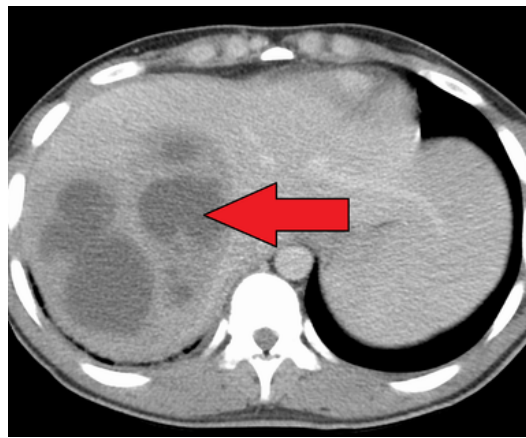
A pyogenic liver abscess is a collection of pus within the liver parenchyma, typically caused by bacterial infection.

Most commonly associated with bacteria such as Escherichia coli, Klebsiella pneumoniae, and other enteric organisms.



PYOGENIC LIVER ABSCESS

COMMON RADIOLOGICAL SIGNS



CT:

Pyogenic liver abscesses on CT typically appear as hypoattenuating lesions with well-defined borders. Rim enhancement may be seen after contrast administration. Gas within the abscess can be visualized, indicating infection.

MRI:

Abscesses on MRI appear hypointense on T1-weighted images and hyperintense on T2-weighted images. Gadolinium contrast may reveal peripheral enhancement.





ROUTES OF INFECTION

1. Biliary Tract Infection:

Bacterial infection originating in the biliary tract is a primary cause of pyogenic liver abscess. Conditions such as gallstones, strictures, or biliary tract abnormalities can lead to ascending infections.

2. Hematogenous Spread:

Bacteria can enter the liver through the bloodstream, leading to abscess formation. This route is often associated with infections originating from distant sites, such as the gastrointestinal tract, lungs, or other infected organs.



ROUTES OF INFECTION

3. Intra-Abdominal Infections:

Infections within the abdominal cavity, such as intra-abdominal abscesses or peritonitis, can extend to involve the liver, contributing to the development of liver abscesses.

4. Postoperative or Post-Procedural Infections:

Surgical procedures involving the abdomen or interventions, such as liver biopsy, may introduce bacteria into the liver, leading to abscess formation.

5. Portal Vein Infection:

In some cases, portal vein thrombosis or infections in the portal venous system can contribute to liver abscess formation.



CLINICAL FEATURES

Abdominal Pain:

Pain or discomfort in the right upper quadrant of the abdomen is a characteristic symptom. The pain may be dull or sharp and can radiate to the shoulder.

Chills and Rigors:

Patients may experience chills and rigors, especially during episodes of fever. This is indicative of the systemic inflammatory response.

Jaundice:

Characterized by yellowing of the skin and eyes, may occur if the abscess compresses or obstructs the bile ducts.

Nausea and Vomiting: Gastrointestinal symptoms such as nausea and vomiting can be present, often in association with abdominal pain.





DIAGNOSIS

Laboratory Tests:

Complete Blood Count (CBC):

Elevated white blood cell count (leukocytosis) is common in the presence of infection.

Liver Function Tests (LFTs):

Abnormal liver function, including elevated liver enzymes and bilirubin levels, may be indicative of liver involvement.

Imaging Studies:

Ultrasound:

Abdominal ultrasound is often the initial imaging modality. It can help visualize liver lesions and guide further diagnostic steps.

Computed Tomography (CT) Scan:

CT scans provide detailed images and can help determine the size, location, and characteristics of the liver abscess.





DIAGNOSIS

Blood Cultures:

Obtaining blood cultures is crucial for identifying the causative bacteria and guiding appropriate antibiotic therapy.

Aspiration and Microbiological Analysis:

Percutaneous Aspiration: *If there is uncertainty in the diagnosis or to identify the specific pathogen, a needle may be inserted into the abscess for fluid aspiration.*

Microbiological Analysis:

Culture and sensitivity testing of the aspirated fluid help identify the responsible bacteria and guide antibiotic selection.

Serological Tests:

Serum Markers: *Assessing markers such as C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) can aid in monitoring the inflammatory response.*





MANAGEMENT OF PYOGENIC LIVER ABSCESS

Antibiotic Therapy:

- *Initiate broad-spectrum antibiotics empirically.*
- *Adjust based on culture and sensitivity results.*

Percutaneous Drainage:

- *Consider for large or symptomatic abscesses.*
- *Guided by ultrasound or CT imaging.*

Underlying Causes:

- *Identify and treat biliary tract diseases.*
- *Address any predisposing factors.*

Supportive Care:

- *Manage symptoms like fever and pain.*
- *Monitor and maintain fluid and electrolyte balance.*

Follow-up Imaging:

- *Monitor abscess resolution with ultrasound or CT scans.*
- *Adjust treatment based on imaging findings.*





PYOGENIC LIVER ABSCESS

Question:

Which of the following interventions may be considered for large or symptomatic pyogenic liver abscesses?

- a. Intravenous fluids*
- b. Percutaneous drainage*
- c. Antiviral medications*
- d. High-fiber diet*

Ans: B, Percutaneous drainage

