

Radiology Quiz

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A) A 27-year-old male presented to the OPD Respiratory Medicine with the complaints of Dry cough, Right-side chest pain and shortness of breath since past 3 months. Shortness of breath got worse since last 5 days and also complaints of salty taste in the mouth.

Digital Chest Xray PA View: -



1. What are the abnormalities seen here?

Ans. This radiographic image shows following signs: -

a) **Right side:** Water lily sign, also known as Camalote sign, seen when endocyst membrane is detached which result in floating of membranes within the peri cyst that mimic the appearance of water lily.

b) **Left side:** Meniscus or Moon skin sign, which results from presence of air between peri cyst and ectocyst).

Those are the Radiological signs of Ruptured Hydatid Cyst.

Other Radiological signs of Ruptured Hydatid cyst includes: -

- Combo sign (onion peel, double arch sign)
- Inverse crescent sign
- Empty dry cyst sign
- Signet ring sign
- Rising sun sign
- Air bubble sign

2. Which organism is responsible for Hydatid cyst?

Ans. Hydatidosis is a zoonotic disease caused by larval stage of Echinococcus species (Echinococcus granulosus, Echinococcus multilocularis, Echinococcus vogeli, Echinococcus oligarthus).

Man is the accidental host or the intermediate host of the parasite and is infected by consuming contaminated plants or vegetables or by contact with infected dogs.

3. Which organ is most commonly affected?

Ans. Most commonly affected organ is the liver (60%), followed by Lungs (20%), two organs can be simultaneously affected in about 5-13% of cases.

Less usual locations are Spleen (6%), bones/muscles (4%), Heart & thorax (2%), Kidney (2%), Brain >1%.

In pediatric age group cysts are more commonly found in the Lung than liver.

4. What is the primary imaging modality used for diagnosis of hydatid cyst?

Ans. Ultrasonography

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On ultrasonography Hydatid cyst may exhibit features as, well-defined cystic lesion, presence of daughter cysts, hydatid sand (echogenic particles) and signs like “water lily sign



“Water lily sign” on Ultrasonography.

5. what serological tests are commonly done for diagnosis of hydatid cyst?

Ans. Tests like: -

- Enzyme Linked Immunosorbent Assay (ELISA)
- Indirect Hemagglutination Antibody Assay (IHT)
- Latex Agglutination Test
- Immunoblot Test (IB)

The majority of the serological tests are based on detecting antibody and are more sensitive than antigen detection. The seropositivity rate is higher in hepatic cysts than in pulmonary cysts.

6. What are the limitations of these serological tests?

Ans. They may cause “False Positive Reaction” in patients with other helminthic infections, chronic immune disorders and in cirrhosis of liver.

In Monitoring of patients after surgery or pharmacotherapy as antibody titer rises at 1-3 months, it takes another 12 to 24 months to benegative.

7. What is the Drug of choice for treatment of Hydatid cyst?

Ans. Albendazole

It is given in dose of 10-15 mg/kg body weight, taken twice daily for duration of 3-6 months with close follow up in the first 2 months due to fear of drug induced rupture of cyst.

Contraindications: -

- Large cyst that are at risk of Rupture
- Inactive or calcified Cyst
- Bone marrow depression
- Pregnancy (specifically 1st trimester)

8. What does” PAIR” stand for?

Ans. It stands for Puncture Aspiration Injection and Respiration

It is animage guided (usually ultrasound or CT scan)procedure that has both therapeutic and diagnostic benefits.

Common Scolicidal agent used are: Hypertonic saline 15-20%, 95% Ethanol, Silver nitrate solution and Polidocanol.

9. Gold standard treatment for Hydatid cyst is?

Ans. Surgery

Some major Indications includes: -

- Large cysts that are superficial and likely to rupture
- Infected Cysts
- Cysts in Vital anatomical locations
- Cysts exerting substantial mass effect.