

# Case Presentation of Infectious Disease

Presented By

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# History

9 year old male child from West Bengal ,

- Complaint of –
  - blood in sputum one and half month back.
  - Only single episode.
  - No h/o trauma, fever, cough, vomiting, abdominal pain or recent weight loss.
  - No h/o of any breathing difficulties.
  - No significant past history.
  - No h/o koch's exposure.
- Father is a farmer and rear dogs and cattle.

- Child visited GP and underwent certain investigations in the form of chest xray and some blood reports
- Suspecting some lung pathology , which might required surgical intervention ,child was referred to our hospital for further evaluation.

# Examination

- Poorly nourished, well oriented and co-operative
- General examination :
- grade 2 clubbing +, No pallor, jaundice, cyanosis, edema, LAP.
- Vitals;
  - T- 37.8°C
  - P-90/min
  - RR- 24/min
  - BP- 100/60 mmhg
  - Spo2- 97% @ RA

## Respiratory system

Oral, Nose, Throat ; WNL

chest movements - b/l symmetrical, thoracic type,  
no visible scar,veins, mass.

apex beat in 5th ics just below the nipple which is  
confirmed by palpation

percussion- dull note on right infrascapular and infra  
axillary region

Auscultation- decreased air entry on right lower zone ,  
no adventitious sounds

per abdominal ; no visible mass, veins or scar.

no tenderness

no organomegaly

CVS : S1 S2 normal no murmur

CNS child well oriented and co operative

rest - wnl

# Summary

- 8yr/male/single episode of hemoptosis,
- poorly nourished with clubbing without any resp distress
- with decrease A/E and dullness on right lower zone

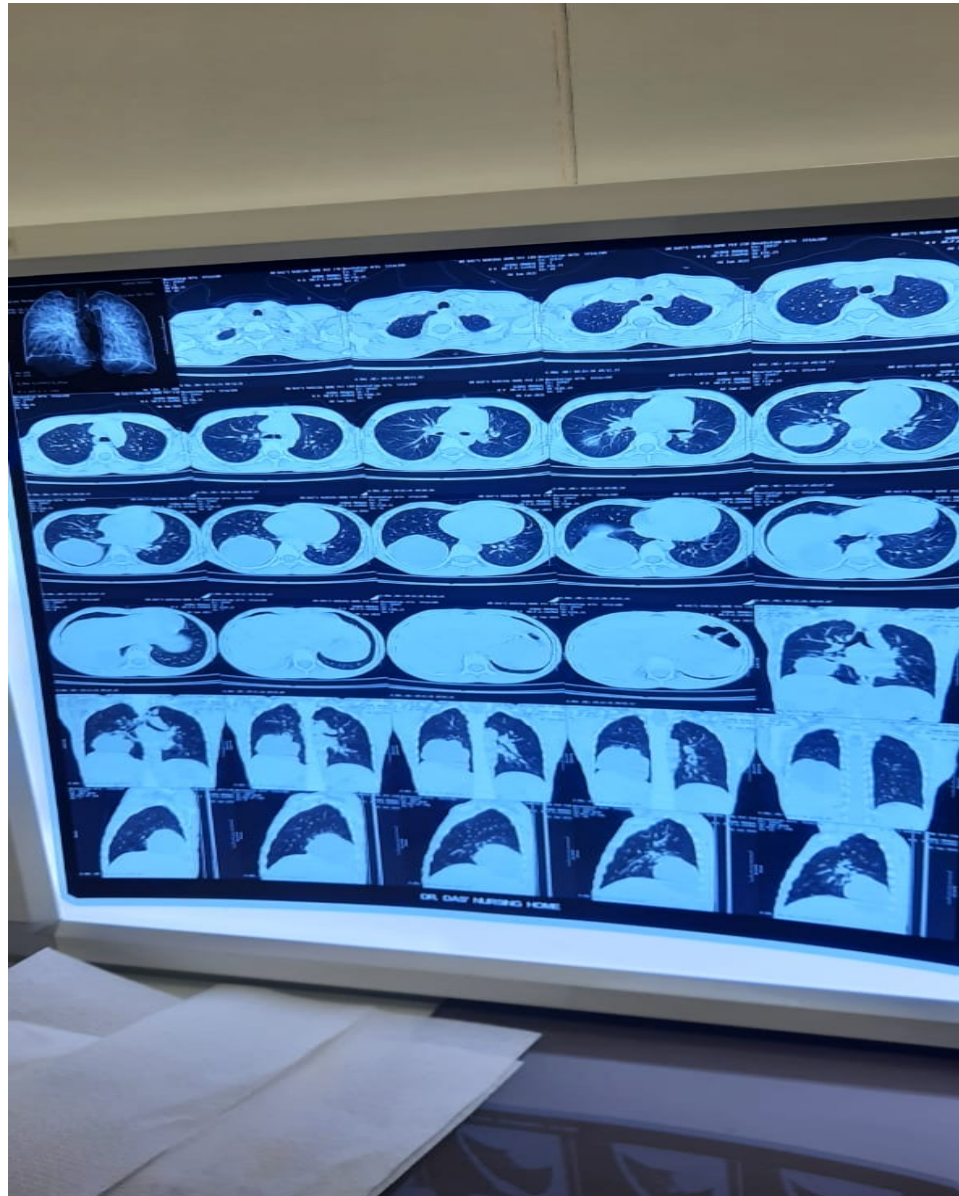
# Differential Diagnosis

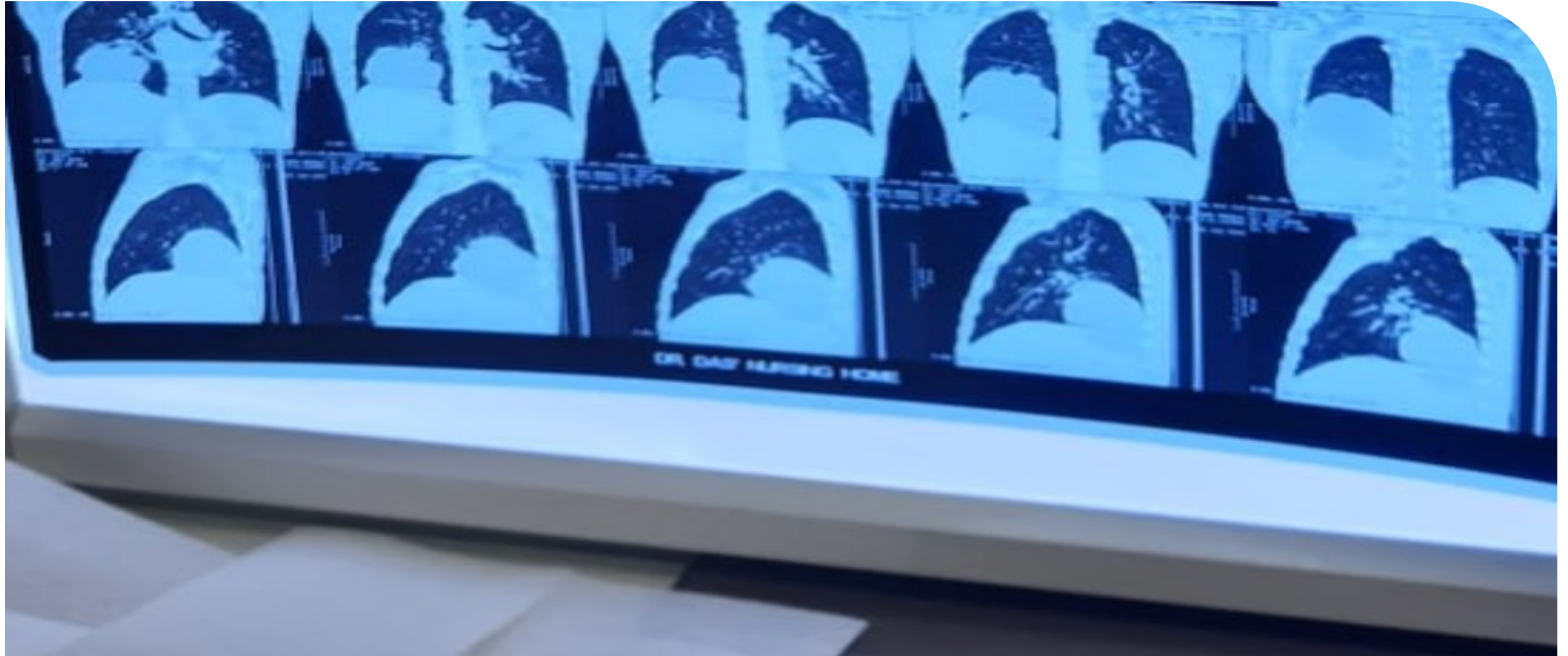
- Tuberculosis
- Lung abscess
- Tumor/ metastasis
- Cystic lesions
- Congenital lung malformation

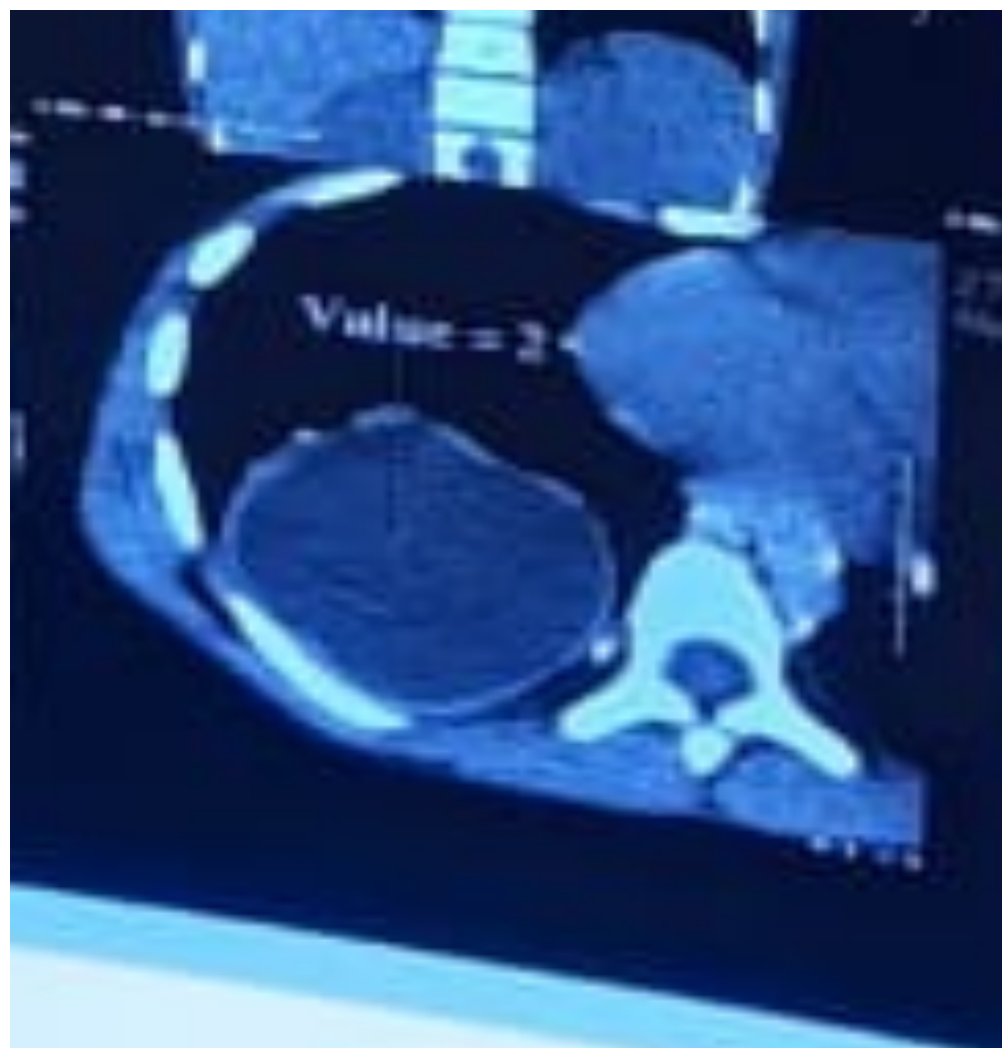


# Investigations

- Hb 11.9 TC- 8830 DC- 62/29/5/2/0.5 PLC- 3.54
- CRP- 0.72
- ESR -18
- Mantoux Test; negative
- Total IgE - 2680.46 (<200)
- CT thorax - large thick wall cystic lesion in right lower lung containing clear fluid,  
similar cyst visible in liver  
Likely ?? hydatid cyst
- Serology test for hydatid cyst (IgG) - Negative

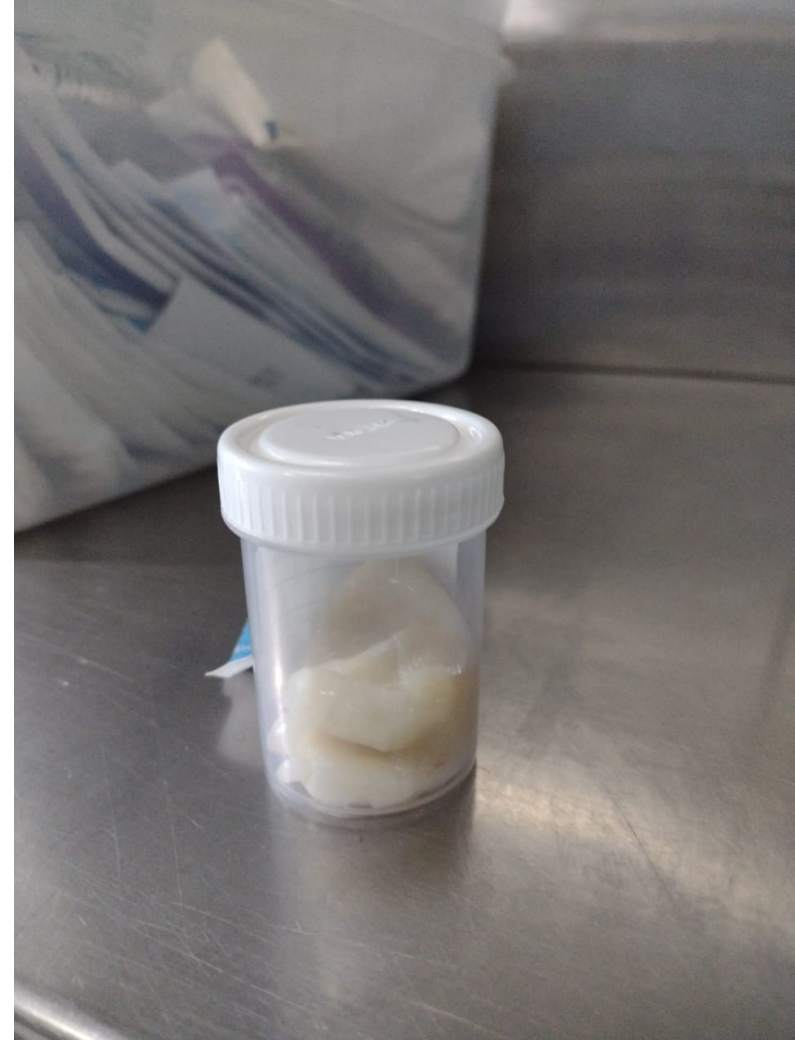






# Management

- Diagnosis - Hydatid cyst
- Started with oral Albendazole (15mg/kg/day)
- Cystectomy was performed without any complication on 23/1/21
- Child is on oral Albendazol ,planned to continue at least 3 months



HISTOPATHOLOGY

BIOPSY NO: 1141/21

CLINICAL DIAGNOSIS: Hydatid cyst of lung

NATURE OF SPECIMEN: 1]Endocyst 2]Pericyst

GROSS MORPHOLOGY:

1]Endocyst : Received pearly white cyst measuring 7.5 x 6 x 5 cm. On cut open cyst shows hydatid stand. Partly embedded in (3) blocks -A to C.

2]Pericyst : Received 3 flattened tissue bits smaller measuring 0.8 x 0.6 cm, largest measuring 3.5 x 1.5 cm. Serially sliced and all embedded -D,E

MICROSCOPIC DESCRIPTION:

Sections from endocyst shows germinal layer with necrotic granular debris in the lumen. Germinal layer seen with many protoscolices which are round to ovoid bodies having eosinophilic central cavity with hooklets.

Sections from the pericyst shows linear fragments showing dense fibrosis.

IMPRESSION:

Features Consistent with Hydatid cyst.

-----END OF REPORT-----

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# Learning points

- Hydatid cyst cause by parasite Echinococcus.
- Humans are accidental host get by larval stages of parasites from the feces of carnivorous definitive hosts.
- Contaminated food, drink, or fomites (e.g., flies and other insects) may disseminate the eggs from dogs' feces.
- However, most cases occur in pastoral families and are associated with close contact with infected dogs.
- Most children with *E. granulosus* infection have a single unilocular cyst, but multiple cysts are seen in 15% to 30% of patients, usually in a single organ system.
- The most common site of the cysts is in the liver.
- Approximately one in five children with a pulmonary cyst also has a concurrent liver cyst,.
- Approximately 10% of cysts are found in sites other than the liver or lung, including the spleen, kidney, peritoneum, genitourinary tract, bone, muscles, heart, eye, and brain.



# Clinical presentation

- Clinical symptoms are because of the complication of the cyst.
- Complications usually occur only if cysts become large, and compress or erode into adjacent structures.
- Cyst leakage or rupture is one of the most common complications and may result in seeding of body cavities with fertile protoscolices,
  - local inflammatory reactions(e.g., pneumonitis),
  - infection of the cyst cavity,
  - type 1 allergic reactions, including hypotension, urticaria, and eosinophilia.
- Rupture may occur spontaneously or secondary to trauma or surgery, but it generally is considered to be an uncommon complication of hydatid disease in children.

# Diagnosis

- Eosinophilia typically is low grade or absent.
- The initial diagnosis of cystic hydatid disease often is based on imaging findings.
- An unruptured pulmonary hydatid cyst has a sharply demarcated, round or oval smooth border.
- After the cyst has ruptured into a bronchus, a crescent-shaped air layer may be seen that is virtually diagnostic.
- In addition to the arc of air between the parasite and the host cyst wall, air in the cyst lumen also may be present. The membrane of a collapsed cyst floating on the surface of the fluid in a ruptured pulmonary cyst has a characteristic “water lily” appearance.
- A World Health Organization staging system has been developed to define management
- Classified from CE1 to CE5 based on imaging

# Treatment

- Surgery is the traditional treatment of choice.
  - Newer approach –
  - Percutaneous drainage (e.g., PAIR)
  - antiparasitic chemotherapy,
  - “watch and wait.”
- 
- treatment should vary on the basis of the
    - location of the cyst or cysts,
    - the nature and size of the cysts,
    - the condition of the patient,
    - the available expertise,

# Prevention

- Banning of home slaughter,
  - Education,
  - Arecoline purging of dogs,
  - Treatment of infected dogs with praziquantel
  - Vaccination is not available
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- tools in developmental stages include coproantigen tests to detect infected dogs and improved their therapy

Thank  
you