The Varied Manifestations Of Hydatid Disease In Children

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Overview

- Hydatid disease (HD) is a unique parasitic disease endemic in many parts of the world
  - significant health problem in the developing world
  - *Echinococcus granulosis*

- dogs or other carnivores are definitive hosts
- sheep or other ruminants are intermediate hosts
- humans acquire infection by ingestion of contaminated food or water
Liver Hydatid

- Most common site
- Rt >> Lt lobe.

- Can be:
  - Solitary
  - Multiple
    - Cysts may be in different stages
daughter cysts indicate viability
Liver cont...

- Cyst calcification seen in 20%-30% of radiographs.
  - curvilinear or ring like
DDx

1. Polycystic liver disease (note abnormal kidneys)

Hydatid Cyst (HC)
DDx

2. Simple cyst – debris in HC
3. Cystic mesenchymal hamartoma

Hydatid Cyst (HC)
Pulmonary Hydatidosis

- 2\textsuperscript{nd} most common site in children (15\%-25\%)
  - frequent location: right posterior lung segments

- 20\%- bilateral and 30\% multiple
- giant cysts

- Dx in endemic regions is on the basis of typical location and imaging findings.
Imaging Findings

- Common imaging findings:
  - the “meniscus sign”
  - the “water lily sign”
  - the “onion peel sign”
Pulmonary cont...

- CT: well defined fluid density lesion

- Chest US: anechoic/hypoechoic well defined lesion with double wall
DDx
Bronchogenic Cyst (seen in young children)

PH [our case, typically older >6 yr]
Cerebral Hydatidosis

- extremely rare: only 2% of all intracranial masses
- most supratentorial & seen in the MCA territories
  - unilocular & solitary
    - isointense or isoattenuating relative to CSF.
    - fine peripheral enhancement may be seen
DDx

- Arachnoid cysts
  - Not entirely surrounded by brain tissue
- Porencephalic cysts
- Epidermoid tumors
- Abscess - significant rim enhancement
- Cystic Astrocytoma - has enhancing mural nodule

- (no surrounding oedema with HC)
- more common in children?
Case 1

- A 10 year old male presented with recurrent cough.
- On examination has dullness on percussion and absent air entry on the right middle lung field.

- RLL superior segment homogeneous smooth walled well defined lesion.
CT

Mediastinal windows...... cyst removed intact

Well defined cystic lesion with faint peripheral contrast enhancement.
Case 2

6 yr old male: cough, chest pain & SOB x 1 month

Well defined smooth walled mass lesion occupying the whole left upper and middle hemithorax

A unilocular double walled homogeneous cystic lesion in the left hemithorax that has undulating membrane-resulting from separation of the endocyst from the pericyst indicating contained rupture.
Hepatic alveolar hydatid disease (*Echinococcus multilocularis*), a mimic of liver malignancy: a review for the radiologist in non-endemic areas

M. D. Chouhan—E. Wiley—P. L. Chiodini—Z. Amin

- (pseudo)solid liver lesions
SUMMARY

- HD in children and young adults is not uncommon.
- Liver and lungs are most commonly involved.
- Imaging features vary according to:
  - growth stage
  - associated complications
  - affected organ.
References

- Hydatid Disease from Head to Toe. RadioGraphics 2003; 23:475–494