



ORIGINAL RESEARCH PAPER

Radio-Diagnosis

“PICTORAL REVIEW OF HYDATID CYSTS :USUAL AND UNUSUAL LOCATIONS”

KEY WORDS: HYDATID, USC, MRI, CT,

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INTRODUCTION

Hydatid disease (HD), also known as echinococcal disease or echinococcosis, is a worldwide zoonosis with a wide geographic distribution. It can be found in almost all parts of the body and usually remains silent for a long period of time.(2)

Despite its global spread, the World Health Organization (WHO) classifies the disease as a neglected tropical disease with an annual financial burden of over US\$ 3 billion worldwide Echinococcosis is caused by the larval stage of Echinococcus. Echinococcus granulosus species is responsible for more than 95% of human HD Alveolar echinococcosis is a less common form of the disease which is caused by E. Multilocularis In rare cases, Echinococcus vogeli and Echinococcus oligarthrus are responsible for polycystic echinococcosis .

Sites of Involvement (1)

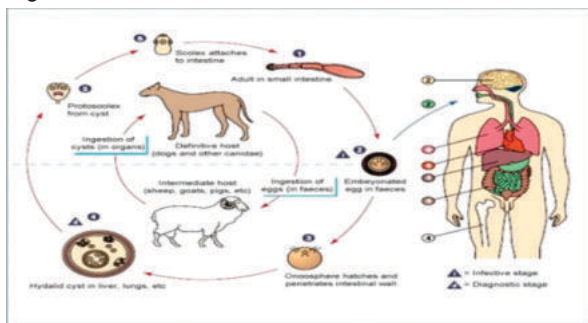
The liver is the most frequently involved site in both isolated cases and in cases with cysts in other organs.

The second most common site is the lung. Other sites of involvement include the spleen, kidney, adrenal glands, peritoneum, bladder, ovary, brain, spinal cord, lung, heart, bone and soft tissues

Life cycle(3)

Dogs or other carnivores are definitive hosts, whereas sheep or other ruminants are intermediate hosts. Humans are secondarily infected by the ingestion of food or water that has been contaminated by dog feces containing the eggs of the parasite.

After the outer capsule of the egg has been ingested, the freed embryo (oncosphere) enters a branch of the portal vein by passing through the duodenal mucosa. Most of these embryos become lodged in the hepatic capillaries, where they either die or to grow into hydatid cysts (HCs). Some pass through the capillary sieve and become lodged in the lungs and other organs



Aims & Objectives of the Study

Imaging review of both usual &unusual locations of hydatid cysts

METHODOLOGY

In our study there are 25 patients included who were referred to our radiology department GGH, Kurnool for evaluation of pain abdomen and Patients were evaluated by USC, MRI ,CT

Inclusion criteria:

- Patients who presented to OPD with variety of clinical symptoms arising the suspicion of mass per abdomen.
- Some patients who incidentally got diagnosed with multiple/solitary cystic lesions in various organs.

Exclusion criteria:

1. Patients with claustrophobia.
2. Patients with other contraindications –pacemaker implants, cochlear implants etc.

Imaging Techniques

- **A total of 25 cases were studied for the past 6 months.**
- **ULTRASOUND examination was done with GE VERSANA BALANCE and ESOATE MY LAB X6 machines, using high and low frequency probes.**
- **CT Scan was done with GE BRIGHT SPEED 16 SLICE MDCT SCANNER.**
- **MRI study was performed on PHILIPS INGENIA1.5 Tesla SCANNER**

Study place: GOVERNMENT GENERAL HOSPITAL KURNOOL MEDICAL COLLEGE.

Study period: JUNE 2022 – Oct 2022.

RESULTS

In our study period, total of 25 cases included, of which most common is in liver, followed by peritoneal hydatidosis and lung.

Serial No.	Diagnosis	No. of Patients	Percentage
1.	Liver	15	60%
2.	PERITONEAL	3	12%
3.	LUNG AND PLEURAL	2	8%
4.	PANCREAS	1	4%
5.	HEART	1	4%
6.	BRAIN	1	4%
7.	INTRAMUSCULAR	1	4%
8.	RENAL	1	4%

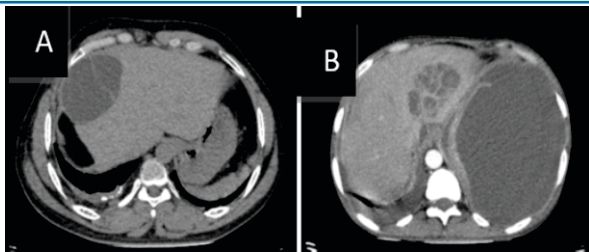


FIG 1 LIVER HYDATID CYST (A) showing well defined cystic lesion with peripherally placed daughter cyst in right lobe of liver (B) multiloculated cystic lesion occupying right and left lobes of liver

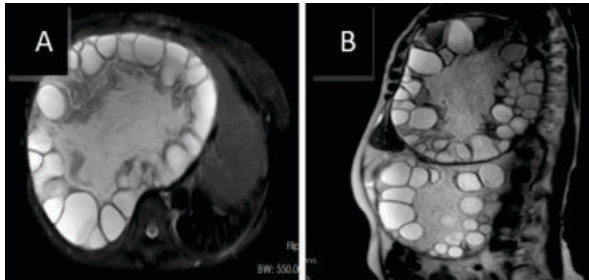


FIG 2 PERITONEAL HYDATID (A) axial T2 showing well defined cystic lesion with multiple peripherally placed daughter cysts with in, in peritoneal cavity pushing the liver towards left (B) sagittal T2 image showing two large cystic lesions with multiple peripherally placed daughter cysts giving classical "ROSSETTE" appearance



FIG 3 PLEURAL HYDATID CYST axial plain CT image showing well defined multiloculated cystic lesion in right pleural cavity

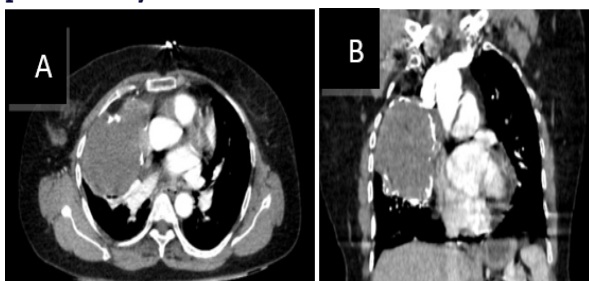


FIG 4 PULMONARY HYDATID (A) axial (B) coronal CECT images showing well defined cystic lesion with peripheral wall calcifications in right lung with volume loss changes (case being a recurrence one)

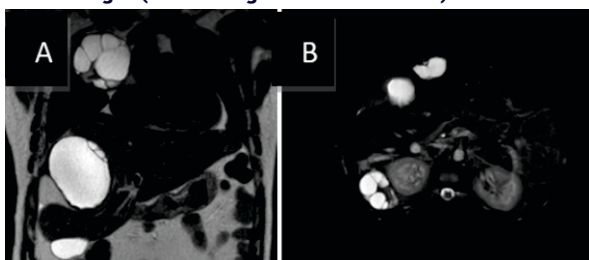


FIG 5 MULTIFOCAL (A) coronal and (B) Axial T2 images

showing well defined cystic lesions in right para cardiac region and in right lobe of liver and in right retroperitoneum

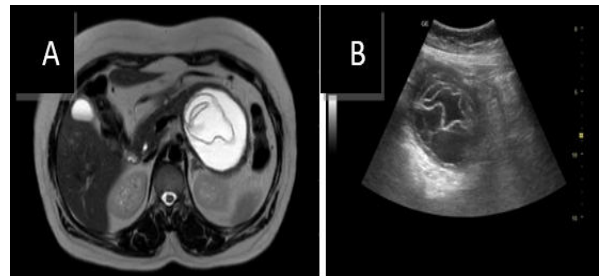


FIG 6 INTRAPANCREATIC HYDATID (A) Axial T2 images showing well defined cystic lesions with internal collapsed membranes, finding consistent with "WATER LILLY" sign in body of pancreas (B) corresponding USG imaging appearance showing collapsed membranes (endocyst).

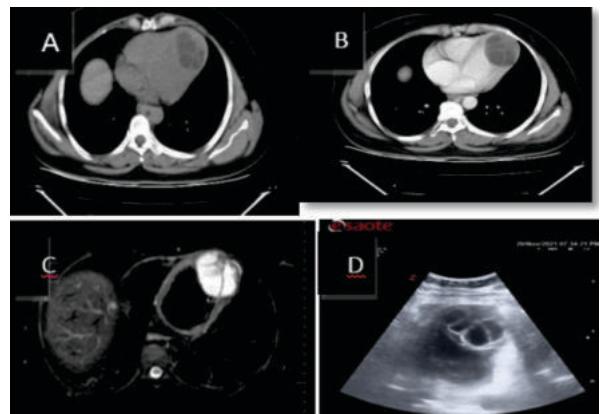


Fig 7 INTRACARDIAC HYDATID showing multiloculated cystic lesion in left ventricle (A) plain (B) contrast enhanced (C) MRI (D) 2d Echo

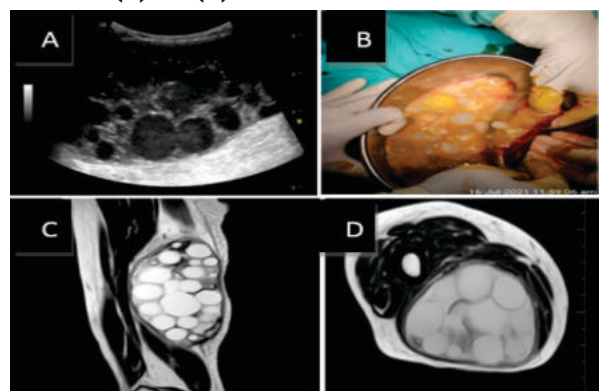


FIG 8 INTRAMUSCULAR HYDATID (A) USG image showing well defined cystic lesion with multiple internal daughter cysts (B) corresponding intraop image (C) sagittal and (D) Axial T2 images showing well defined cystic lesion multiple packed daughter cysts in biceps femoris muscle

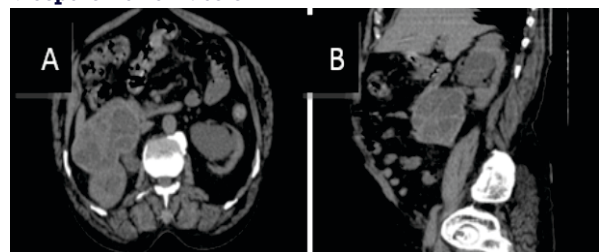


FIG 9 RENAL HYDATID (A) axial (B) sagittal

reconstructed CT image showing multiloculated cystic lesion arising from lower pole of right kidney, which intraop proved to be a hydatid cyst

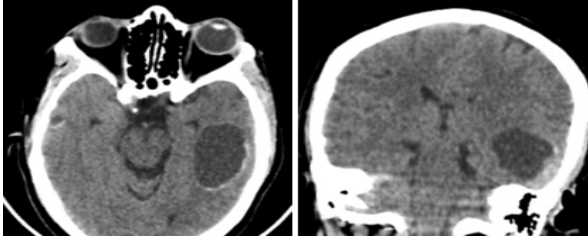


FIG 10 CEREBRAL HYDATID (A)axial (B)coronal reconstructed CT image showing well defined cystic lesion occupying left temporal lobe in a 55 year old female who is a known case of multifocal hydatids, who presented with seizures, which on intraop proved to be a HYDATID cyst.

CONCLUSIONS

- Hydatid disease is a dynamic disease with many possible imaging appearances.
- Disease can affect any organ with vascular supply.
- The liver is the most frequently involved site in both isolated cases and in cases with cysts in other organs.
- The second most common site is the lung.
- HD less commonly involves the brain, orbit, muscle, bone, and vascular structure.

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