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CASE REPORT ON HEPATIC HYDATID CYST IN ADULT MALE

Dr. P. Sahithi Reddy*, Dr. Sadhna Sharma and Dr. M. Hanvitha

[1]Second Year Postgraduate, MD General Medicine, Mallareddy Institute of Medical Sciences, Suraram, Telangana.
[2]MD, Professor, Department of General Medicine, Mallareddy Institute of Medical Sciences, Suraram, Telangana.
[3]Senior Resident, MD General Medicine, Telangana.

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***Corresponding Author**
Dr. P. Sahithi Reddy
Second Year Postgraduate, MD General Medicine, Mallareddy Institute of Medical Sciences, Suraram, Telangana.

ABSTRACT
Hydatid disease is a zoonotic disease caused by parasite Echinococcus granulosus and Echinococcus multilocularis In India, it is more prevalent in states of Andhra Pradesh and Tamil Nadu and is also endemic in Rajasthan. This is a case of Hydatid cyst in right lobe of liver which presented as 53 yr old male with complaints of abdominal distension, bilateral lower limb swelling, shortness of breath, dry cough since 6 days. Per abdominal examination- Distended with tenderness in right hypochondrium, shifting dullness was present. USG Abdomen and HRCT CHEST– Well defined cystic lesion with peripheral rim calcification and echogenic centre is noted in right lobe of liver P/o Hydatid cyst in liver.

INTRODUCTION
Hydatid disease is a zoonotic disease caused by larvae of the parasite belonging to Platyhelminthes phylum, Cestode class, Echinococcus genus - Among all the Echinococcal species found to infect humans (E. granulosus, E. multilocularis, E. vogeli, E. canadensis and E. borealis), E. granulosus is most commonly found in India.

It is characterised by slowly growing cyst in visceral organs. Liver is the organ most involved (65%–70%) followed by the lungs (25%). Less frequently, involves the spleen, kidneys, peritoneum, brain, heart, and bones.

CASE REPORT
A 53 yr old male patient presented to general medicine OPD with complaints of abdominal distension since 6 days insidious onset, gradually progressed associated with abdominal discomfort, bilateral lower limb swelling since 6 days – insidious onset, gradually progressed from ankle to knee, Shortness of breath on exertion since 6 days, H/o orthopnoea Cough- Dry cough for 6 days, followed by productive cough since 1 day, yellowish, small quantity, foul smelling not blood tinged sputum.

Addictions – Alcoholic since 20 yrs, twice a week, 180ml each time, smoker since 40 yrs 5 cigarettes per day.

On general examination, coarse tremors were present, bilateral pitting type pedal edema present.

Abdominal girth was 103 cms.

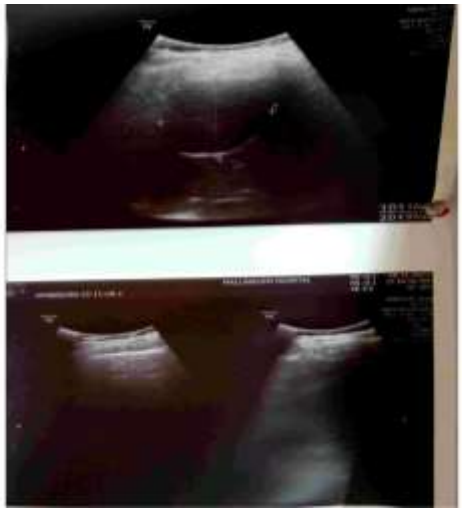
Per-abdominal examination -soft, Distended with local rise of temperature no organomegaly, tenderness in right hypochondrium, shifting dullness was present.

On auscultation, decreased breath sounds were heard in Right infrascapular region.

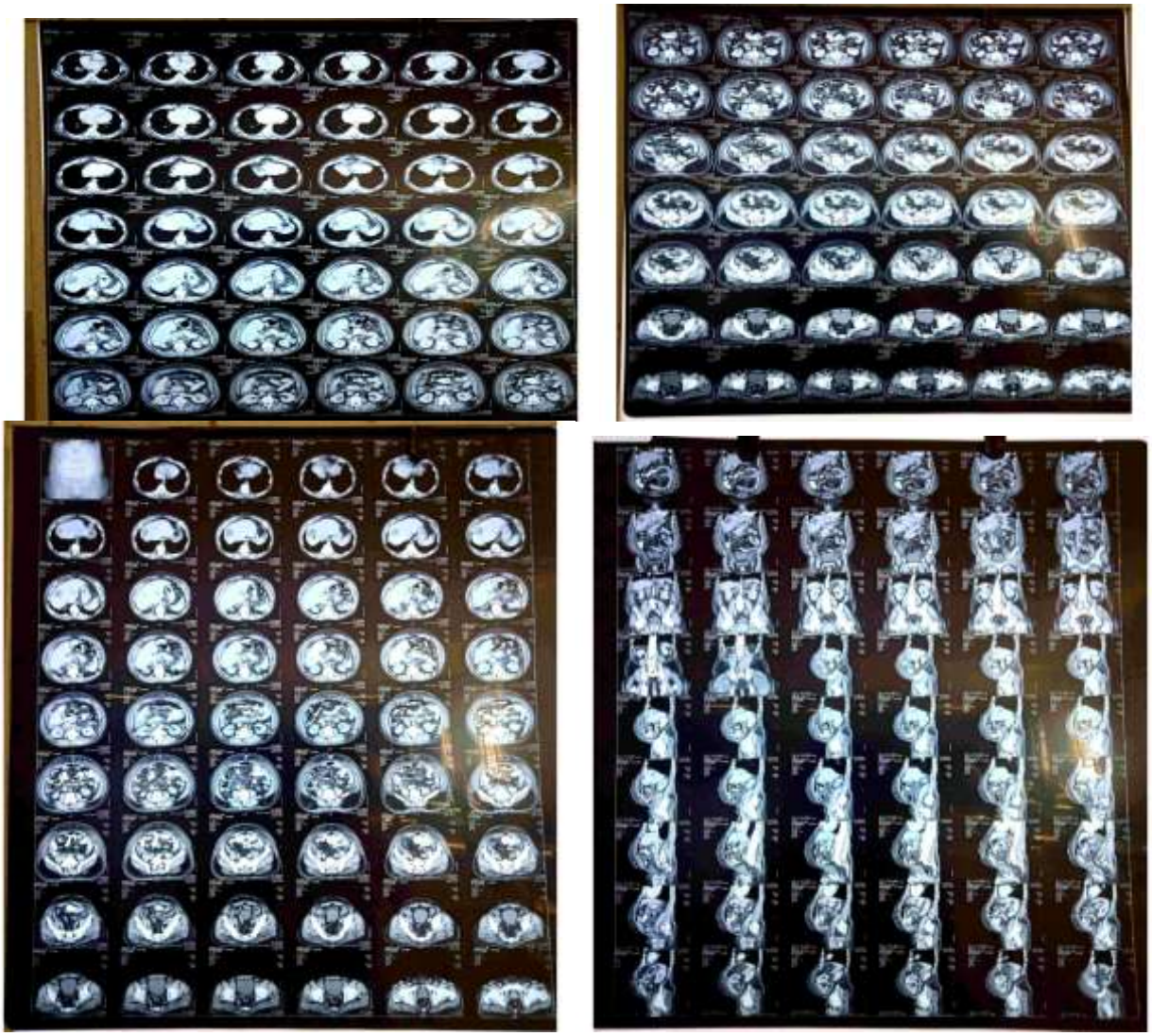
CBP, CUE, ESR, URINE CULTURE AND SENSITIVITY, SPUTUM GRAM STAIN,BT,CT, PT/INR, APTT were within normal limits.T3,T4 levels were raised and TSH was below normal values.

USG Abdomen - Liver measures 15 cms.

Evidence of well defined cystic lesion measuring 5.1×4.9 cms with peripheral rim calcification and echogenic centre is noted in right lobe of liver P/o Hydatid cyst in liver. Mild ascites.



HRCT CHEST- well defined cystic lesion with peripheral rim calcification noted in right lobe of liver P/o Hydatid cyst. Well defined cystic lesion in superior segment of left lower lobe. Fibrotic strands and tractional tubular bronchiectatic findings were noted. Paraseptal and centrilobular emphysematous changes in bilateral upper lobes in the lungs.



After admission, patient was started on Inj. Antibiotics, Tab. Rifagut, Tab. Udiliv, Tab. Dytor, Tab. Propranolol, Tab. Diloxanide furoate. Fluid and salt restriction were done.

Patient was improving symptomatically, but on 4th day of admission, sudden fall in saturation with persistent tachycardia and tachypnea developed. On examination, diffuse ronchi+, decreased breath sounds in bilateral basal areas, fine crepts were heard in right basal area.

Patient was treated with Inj.Hydrocort, Nebulization with duolin and budecort, Inj.Lasix, Propped up position, Oxygen inhalation was started to maintain SpO2.

Troponin I was negative, ECG – Lead II –Normal sinus rhythm, P wave – 2-5 mm, Incomplete RBBB and 2D ECHO- EF-48%, RVSP-52 mmHg, Dilated RA/RV, Mild global hypokinetic LV, Moderate TR, Moderate PAH, Grade- I LV Diastolic dysfunction. Chest X ray had a ring like lesion in the left lower lobe which was not a hydatid cyst in view of lack of membranes and other signs.

After treatment, Heart rate was 86 bpm, Spo2 was 97% with 2lit of oxygen{84%on RA}.RR-28 cpm.T. Flavadone-MR, T. Cardivas, T. Aldactone were started.

Patient improved symptomatically from there on and was started on TAB.ALBENDAZOLE and TAB.PRAZIQUANTEL and no active surgical intervention was required because of size and location of the hydatid cyst.

Repeat 2D ECHO – EF – 56%, RVSP – 45mmHg, Dilated RA, RV, Grade I LV Diastolic dysfunction, Mild TR, PAH.

DISCUSSION

Hydatid disease caused by dog tapeworm Echinococcus, is globally distributed and while it is commonly seen in Western China Central Asia Middle East Mediterranean region eastern Africa and parts of South America, and much less common in the European countries like UK. Dog is the definitive host and is the commonest source of infection for transmission to intermediate host like sheep, cattle and human. In the dog, the adult worm reached small intestine and eggs are passed in their feces. After ingestion of eggs, cysts develop in intermediate hosts. When dog ingests infected meat containing cysts, the life cycle is completed. Humans are the incidental dead end host and not part of transmission cycle.

In humans, after ingestion of eggs, embryoescape from eggs and penetrate intestinal mucosa, enter portal circulation, and are carried to various organs, mostly liver. Larvae develop into fluid filled cysts consisting of outer pericyst, derived from compressed host organ tissues, intermediate non infective hyaline ectocyst, inner endocyst that is germinal membrane and contains viable parasites which can separate forming daughter cysts.

Patients generally remain asymptomatic until their expanding size or their space occupying effect in an involved organ elicits symptoms.

Echinococcus infestations are potentially dangerous because they typically remain asymptomatic until the cysts cause a mass effect on an organ, which can occur 5 to 20 years after the initial infestation. Hepatic hydatid cysts can cause epigastric pain and dyspepsia (up to 35%) and can mimic cholelithiasis or jaundice (up to 45%) from compression in the Bile duct. In one third of the cases, the disease is found incidentally during the check-up for non-specific symptoms (fatigue, weight loss, hepatomegaly). Hydatid cysts do not metastasise.

The hydatid cyst fluid Is highly allergenic and accidental cyst rupture may result in anaphylactic shock and rapid death.

Diagnosis can be done using radiographic and related imaging. USG, CT, MRI reveal well defined cysts with thick or thin walls. May also reveal hydatid sand. CT is better in detecting calcified lesions, and MRI visualises necrotic or fibrotic non-calcified lesions and extrahepatic lesions of alveolar echinococcosis more clearly. Pathognomonic finding, if demonstrable, is that of daughter cysts with in larger cyst.

In echinococcosis, ELISA is positive in more than 90% of patients with hepatic cysts. One serological test which has proved to be of value to diagnosing hydatid disease is the Western Blot.

Egg shell or mural calcification on CT, is indicative of E. granulosus infection and helps to distinguish from carcinomas, bacterial or amebic liver abscess or hemangiomas.

The treatment of cystic hydatid disease is with Albendazole, often with cautious surgical resection of cysts. When used alone, as in cases where surgery is not possible, albendazole (10–15 mg/kg/day orally) has demonstrated efficacy, with courses of 3 months or longer duration; alternating cycle of treatment and rest may be needed. Mebendazole(40–50 mg/kg/day orally) is an alternative drug, and praziquantel may also be effective. In some cases, medical therapy is begun, with surgery performed if disease persists after some months of therapy. Another approach, in particular with inoperable cysts, is percutaneous aspiration, Injection, and reaspiration (PAIR). In this approach (which should not be used if cysts communicate with the biliary tract), patients receive antihelminthic therapy, and the cyst is partially aspirated.

CONCLUSION

Early treatment is mandatory to avoid local general complications which are directly related to duration of the cyst.

Despite the high cure rates, re-infection is very high in cestode infections. Improving basic sanitation, proper hygiene education, wearing shoes, anti-worm treatment of all household members, periodic mass treatment of targeted population groups and de-worming of livestock and domestic animals is required to prevent re-infection.

Treating Taenia solium infected livestock with oxfendazole (OFZ) is another way of reducing the incidence. A recombinant antigen Vaccine against infection in sheep with the parasite Taenia ovis, The first highly effective, non-living vaccine against a parasitic infection in animals or humans, has been developed recently.