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### RESEARCH ARTICLE

#### A CASE SERIES OF HYDATID CYST DISEASE: COMMON AND RARE PRESENTATION

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#### Manuscript Info

##### Manuscript History

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#### Abstract

**Background:** Hydatid cyst disease, caused by *Echinococcus* species, is a chronic zoonotic infection with variable prevalence across India. Humans, as accidental hosts, can develop cysts in multiple organs due to fecal-oral transmission of parasitic eggs.

**Aim:-** This case series aims to elucidate the spectrum of clinical manifestations and outcomes of hydatid cyst disease, with a focus on both common and uncommon presentations.

**Methods:** We prospectively studied the patients diagnosed with hydatidosis at GIMS Kalaburagi between March 2022 and October 2023. The study included demographic profiles, clinical history, examination findings, investigations, and surgical management outcomes.

**Results:** The series presents cases involving the liver, peritoneum, spleen, and submandibular region. Notable findings include a splenic hydatid cyst with peripheral calcification, a large peritoneal cyst extending to the epigastrium, and a submandibular hydatidosis confirmed by FNAC. Surgical interventions varied, with some cases requiring organ resection and others managed with cyst drainage and pharmacotherapy. Outcomes ranged from successful treatment to mortality due to complications such as peritonitis and myocardial infarction.

**Conclusion:** Hydatid cyst disease can present with a wide array of clinical manifestations, often requiring complex surgical management. This series underscores the importance of early diagnosis and tailored treatment strategies to improve patient outcomes.

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#### Introduction:-

1. Hydatid cyst is a chronic parasitic infection in humans caused by *echinococcus* species.
2. Hydatidosis is widespread Zoonoses in the world with significant socio-economic repercussions and ramifications.<sup>1</sup>
3. In India highest prevalence is seen in regions like Gujarat, Andhra Pradesh and Tamil Nadu.<sup>2</sup>
4. It is caused by *echinococcus granulosus* and *echinococcus multilocularis* which are the two main important species of *echinococcus*.
5. The definitive hosts of the parasite are dogs whereas intermediate hosts are sheep and other rudiments.
6. Humans are accidental hosts
7. The disease is transmitted through the feco-oral route when humans accidentally ingest parasite eggs, which then hatch in their bowels and circulate to various body parts

8. The clinical features are variable and are mainly dependent on the organ involved.
9. Most frequently involved organs are liver(65%)and lungs (25%) can also affect other areas such as the spleen (2% to 3%), kidneys (1% to 4%), uterus, and retroperitoneum (0.5% to 1%), adnexa (0.5% to 1%), pancreas (0.5% to 0.8%), and subcutaneous sites (1% to 2%).<sup>3</sup>
10. The early diagnosis and prompt treatment are few of the challenges faced during this study
11. Treatment of hydatid cysts has to be considered mandatory in symptomatic Cysts and recommended in viable cysts because Of the risk of severe complications.<sup>4</sup>
12. The modern Treatment of hydatid cysts varies from surgical Intervention to percutaneous drainage or medical Therapy.<sup>5</sup>
13. Surgery is still the treatment of choice.
14. We hereby present a case series of hydatidosis involving liver ,peritoneum, spleen,and submandibular region which were operated and treated in GIMS KALABURGI from Jan 2021to December 2023

**Aim:**

To Study Common and rare presentation of Hydatidosis

**Obective:-**

To Analyse different presentations of Hydatidosis diagnosed and treated in GIMS KALABURGI

1. Study design :- Prospective study
2. Study period :- Jan 2021 to December 2023
3. Place of study:-GIMS KALABURGI
4. Study population:- PATIENTS DIAGNOSED AS HYDATIDOSIS AND TREATED FOR SAME IN GIMS KALBURGI FROM JAN 2021 TO DECEMBER 2023

**Case 1 :-Saheb bi 85 year female****Chief complaints and HOPI:**

Presented with complaints of mass per abdomen since 3 years,pain abdomen 6 months with umbilical swelling since 3 months, swelling which was gradual in onset and gradually progressive associated with dull aching type of with no aggravating or releieving factors not radiating with no history of pets

**On examination –**

Abdomen soft non tender, distended with flanks full with everted umbilicus

**Blood investigation and radiology:**

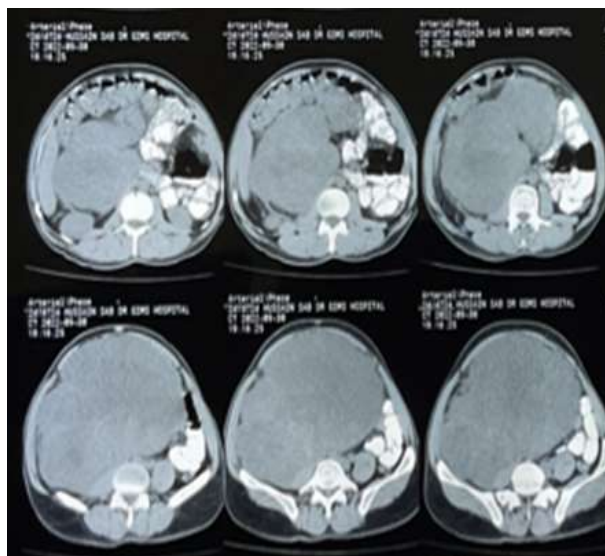
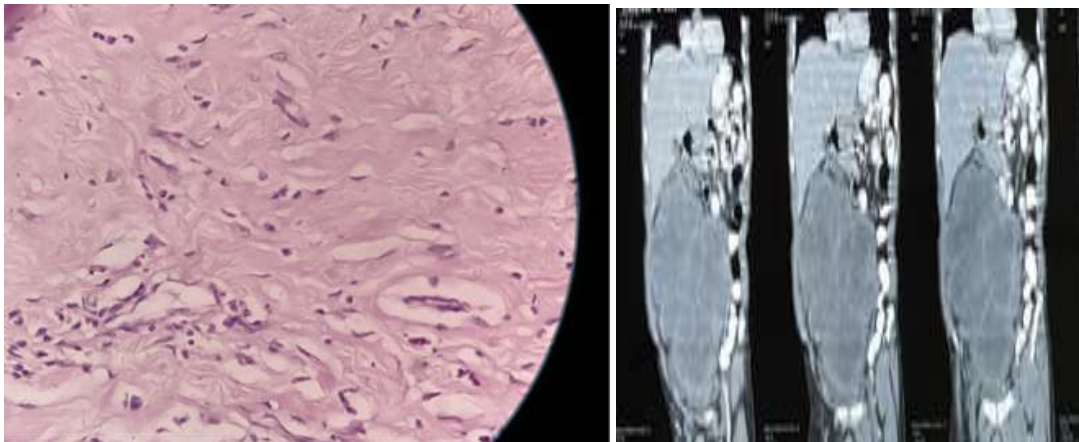
1. Blood investigation –NO Eosinophilia
2. Usg of abdomen and pelvis-simple hepatic cyst with large pelvic abdominal ovarian cyst (likely mucinous)
3. CECT abdomen-cystic lesion insinuates into right perihepatic,left subhepatic space and bilateral paracolic gutter measuring 33 \*25 cm with small paraumbilical hernia suggestive of peritoneal hydatidosis

**Diagnosis – Peritoneal hydatidosis****Surgery and Intraoperative findings:**

1. Under GA Elective exploratory laparotomy with pericystectomy with drainage of cyst wall done. Hypertonic saline wash given
2. Intraoperative finding- solitary large cyst arising from mesentry

**Post op recovery and histopatho report**

1. Patient recovered uneventfully
2. Patient started on Tab.Albendazole 400 mg BD and Tab Prezequintal 600 mg BD
3. Histopathology report collected 10 days later which was suggestive of cystic wall structure with chronic inflammation with no daughter cyst



**Case 2 Savita 29 female****Chief complaints and HOPI**

Presented with pain abdomen since 2 months

Pain in left upper side of abdomen which was insidious in onset, non progressive, dull aching type, non radiating, no aggravating or relieving factors not associated with fever with chills, and urological symptoms

She is farmer by occupation and rears sheep, dogs and cats

**On examination** –abdomen was soft, non tender with mild splenomegaly

**Blood investigation and radiology:**

1. On blood investigations eosinophils counts were raised
2. USG abdomen and pelvis- Cyst in midpole of spleen with peripheral calcification and few daughter cyst
3. CECT abdomen- splenic Hydatid cyst in mid pole of spleen with peripheral calcification and associated daughter cyst

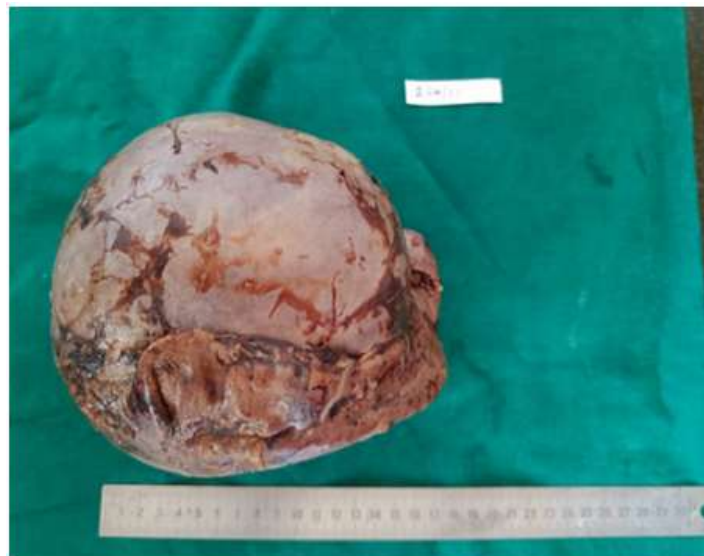
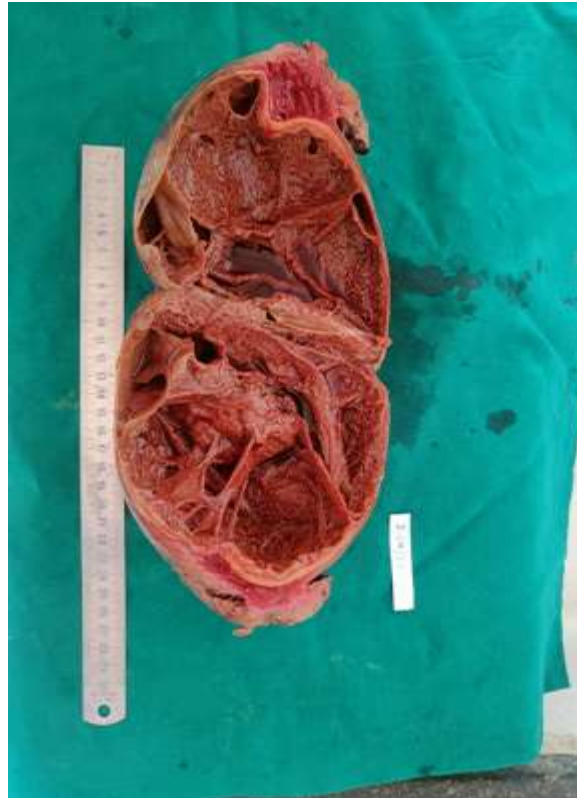
**Diagnosis :- Splenic Hydatidosis****Surgery and Intraoperative findings**

1. Pre splenectomy vaccination given
2. Patient opted for elective splenectomy surgery Under GA Midline laparotomy and Splenectomy done hypertonic saline wash given
3. Intraoperative finding: cystic lesion of size approximately 8\*4 cm was noted in midpole of spleen

**Post op recovery and histopatho report**

1. Post operative recovery was uneventful
2. Patient started on Tab albendazole 400 mg BD And advised yearly vaccination
3. HPE report collected after 10 days confirms diagnosis of hydatidosis with multiple daughter cyst in main cyst



**Case 3 Devindrappa 55 male****Chief complaints and HOPI**

Presented with pain abdomen since 1 year which worsened since 1 week, patient gave history of vomiting since 3 days and constipation since 3 days

On examination abdomen was soft, distended with diffuse tenderness, with no guarding and rigidity

**Blood investigation and radiology**

1. Usg abdomen pelvis-multiple cystic lesions with daughter cyst at multiple sites intraperitoneally involving, mesenteric, pelvic, sub hepatic region



2. CECT abdomen and pelvis-multiple cysts in peritoneum suggesting ,mesenteric,sub hepatic,pelvic hydatid cyst with daughter cyst with largest measuring 24\*15\*5cm

#### Diagnosis- Peritoneal Hydatidosis

#### Surgery and Intraoperative findings

1. Exploratory laparotomy done with cyst excision,with thorough peritoneal wash given with hypertonic saline abdominal drain kept in situ
2. Intra operative findings :multiple peritoneal cysts were seen disseminated through peritoneum

#### Post op recovery and histopatho report

Patient succumbed to death post op day 2



**Case 4:- Munira begum 65/F****Chief complaints and Hopi**

presented with mass per abdomen since 2 years with pain abdomen since 3 months, mass in upper abdomen in midline region, insidious in onset, gradually progressive, with dull aching type of pain with no other significant history

**On examination** mass in epigastric region which moves with respiration with ill defined borders palpated which was intraperitoneal on examination

**Blood investigation and radiology:**

1. On blood investigations – eosinophilia is noted
2. Usg abdomen pelvis- A complex cystic lesion in the left lobe with multiple septae, likely to be hydatid cyst
3. CECT abdomen- CECT abdomen- rounded heterogeneous exophytic mass with partial wall calcification seen in left lobe of liver

**Diagnosis- Hepatic Hydatidosis****Surgery and Intraoperative findings**

1. Elective exploratory laparotomy with pericystectomy with marsupialization of cyst was done
2. Intra operative finding – calcified cyst in segment 4 of liver noted

**Post op recovery and histopatho reports**

1. Patient post operative recovery was uneventful started on tab albendazole
2. HPE – hydatid cyst with chronic inflamed cystic wall with calcification

**Case 5 Mallamma 38/female****Chief complaints and HOPI**

Presented with progressive swelling in left submandibular region since 3 years, not associated with pain and discharge, no other significant history

**On examination** ;Solitary swelling in left submandibular region globular in shape extending from lower border of mandible extending 4 cm below, non tender, soft in consistency, skin pinchable

**Blood investigation and radiology**

1. On blood investigation – No eosinophilia noted
2. Usg of swelling- cystic lesion with ring enhancement measuring 3\*4cm

3. Fnac-Showed plenty of proctoscolices and scattered hooklets of hydatid cyst


### Diagnosis – Submandibular Hydatidosis

#### Surgery and Intraoperative findings

PAIR- Aspiration and installation of sclerosing agent done

Post op recovery and histopathology report

Swelling didn't recur

 GULBARGA INSTITUTE OF MEDICAL SCIENCES, KALABURGI  
DEPARTMENT OF PATHOLOGY  
FNAC REPORT

		FNAC No:	708/23
Patient Name:	Mallamma	OP / IP No:	20230174216
Age / Sex:	38 years / Female	Bill No:	47906
Referral Unit:	General Surgery 'C' unit	Date:	24/07/2023

**FNAC Site:** Swelling in right submandibular region.

**Aspirate:** Clear fluid amounting to 17mL.

Swelling reduced after aspiration.

**Microscopy:**

Smear studied shows plenty of proctoscolices and scattered hooklets of hydatid cyst seen in proteinaceous background.

**Impression:** Features are suggestive of Hydatid cyst of submandibular region.

**Advice:** Excision and histopathological study.

Signature of Pathologist  
Dr. Mohammed Mateen Ahmed

### Case 6 :Shivaleela 27/F

#### Chief complaints and HOPI

Presented with mass in left upper abdomen, insidious in onset gradually progressive, no history of urological symptoms, no history of fever, constipation

**On clinical examination :** swelling in left hypochondrium which moves with respiration with well defined borders

#### Blood investigation and radiology

1. USG abdomen – large well defined cystic lesion with internal septation measuring 14\*14.5cm and seen abutting spleen and left lobe of liver
2. CECT Abdomen and pelvis: large well defined cystic lesion arising from upper pole of spleen with septations suggestive of hydatidosis

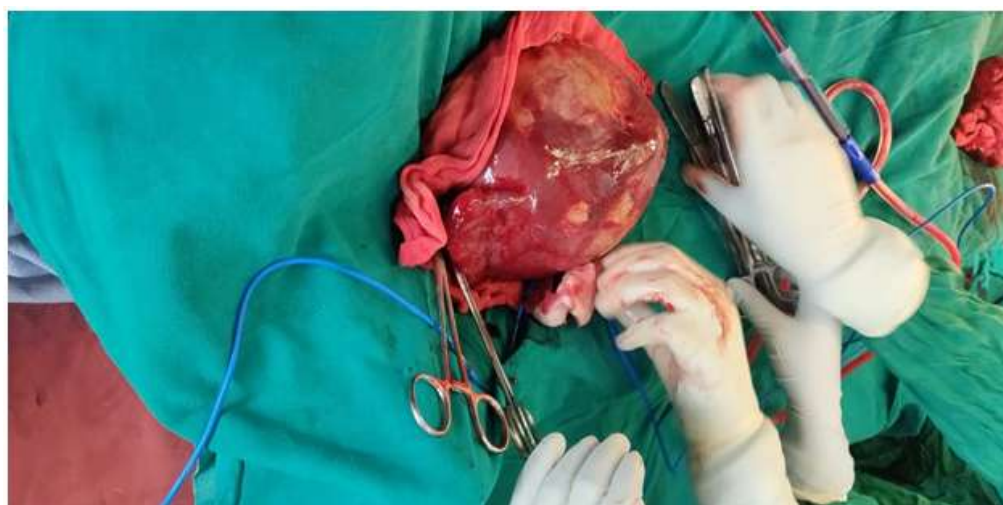


**Diagnosis- Splenic Hydatidosis****Surgery and Intraoperative findings**

1. pre splenectomy vaccination given
2. elective splenectomy surgery done, Under GA Midline laparotomy done cystic lesion of size approximately 15\*15 cm was seen arising from upper pole of spleen hypertonic saline wash given

**Post op recovery and histopatho report**

1. Post operative recovery was uneventful
2. Started on Tab albendazole 400 mg BD And advised yearly vaccination
3. HPE –Splenic hydatid cyst with multiple daughter cysts.



No	Name	Age sex	Investigations	Diagnosis	Preoperative and Intra-operative findings	Post operative findings
1	Saheb bee	85/f	Usg abdomen and pelvis - large pelvic abdominal	Peritoneal hydatid cyst	Intraoperatively six litres of	SUCCMBED TO DEATH ON

			<p>cyst extending from pelvis to epigastrium and both parabolic gutter and cyst herniation through umbilicus, likely mesenteric cyst</p> <p>CECT abdomen pelvis- multiple peripherally enhancing cystic lesion measuring 33×17 cm in peritoneal layer, with hepatic cyst in 2×2cm With paraumbilical hernia</p>		<p>greasy fluid with thick walled cyst with ,untitled September adherent to peritoneum seen, hepatic cyst a So drained</p>	POD33 TO MI
2	Savitha	29/f	<p>Usg Abdomen and pelvis- Cyst in midpole of spleen with peripheral calcification and few daughter cyst</p> <p>CECT abdomen- splenic Hydatid cyst in mid pole of spleen with peripheral calcification and associated daughter cyst</p>	Splenic hydatid cyst	<p>Preop – vaccinated for OPSI , intraop hypertonic saline wash given, Post op tab albendazole 400mg and vaccination</p>	DISEASE FREE AND DISCHARGED
3	Munira begum	66/f	<p>Usg – A complex cystic lesion in the left lobe with multiple septae, likely to be hydatid cyst</p> <p>CECT abdomen- rounded heterogeneous exophytic mass with partial wall calcification seen in left Lobe of liver</p>	Hepatic hydatidosis	Intra-operative finding, thick calcified cyst in left lobe of liver	DISEASE FREE AND DISCHARGED
4	Devendrappa	55/m	<p>Usg abdomen and pelvis- multiple cyst in the peritoneum with daughter cells at , multiple site mesenteric subhepatic and pelvic region</p> <p>CECT abdomen and pelvis- multiple peritoneal and mesenteric, subhepatic, pelvic hydatid cyst with daughter cyst</p>	Peritoneal hydatidosis	Multiple cyst noted with ascites	Patient succumbed to death pod2
5.	Mallamma	38/f	<p>Usg submandibular area- cystic lesion with ring enhancement measuring 3×4cm likely hydatid cyst</p> <p>Fnac of swelling in</p>	Submandibular hydatidosis	Aspiration and installation of scolocidal agent	DISEASE FREE AND DISCHARGED

			submandibular area–smear studied shows plenty of protoscolices, and scattered hooklets of Hydatid cyst seen in proteinaceous background			
6	Shivaleela	27/f	Usg abdomen and pelvis– fairly large well defined cystic lesion with internal septation measuring approximately 14×14.5 cm seen abutting spleen and left lobe of liver  CECT abdomen pelvis– large well defined cystic lesion noted arising from upper pole of spleen with septae suggestive of hydatidosis	Splenic Hydatid cyst	Enlarged cyst with no daughter cyst splenectomy done	DISEASE FREE AND DISCHARGED

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