

Hydatid cyst of liver: Symptoms and Clinical signs

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Abstract

The hydatid cyst is unique and localized in the right lobe of the liver in 65%. The most frequent extrahepatic locations are the lungs, the spleen and the peritoneum. Liver (55-70%) is the obvious first site after entry through the gut and passage in the portal circulation. Most cysts tend to be located in the right lobe. Patients presenting with varying gastrointestinal symptoms and signs, and symptoms of space occupying lesions of liver like obstructive jaundice, mass per abdomen, patients with complications due to rupture of hydatid cyst were the study subjects. Tenderness was present in 83.3% of patients. Hepatomegaly was present in 33.3%.

Keywords: Hydatid cyst, hepatomegaly, obstructive jaundice

Introduction

The life cycle of *E. granulosus* requires both an intermediate host usually (a sheep, a cattle, or a swine), and a primary canine host. A man becomes both an accidental and an intermediate host through contact with infected dogs or by ingesting food or water contaminated with eggs of the parasite. One can never be surprised to find out that this disease is most commonly found in the temperate and sheep-raising areas of the world ^[1].

Once the eggs are ingested, they release larvae into the duodenum. The larvae migrate through the intestinal mucosa and gain access to mesenteric vessels which carry them to the liver. The liver is the site of up to 70% of echinococcal lesions. Larvae that escape hepatic filtering are carried to the lung, the site of an additional 15-30% of lesions. From the lungs, larvae may be disseminated to any part of the body. Larvae that escape the host's defenses and persist in a host organ develop into small cysts surrounded by a fibrous capsule. These cysts grow at a rate of 1-3 cm/year and may remain undetected for years. Thus; they can reach very large sizes before they become clinically evident. The cyst wall contains an outer chitinous layer and an inner germinal layer. The germinal layer may develop internal protrusions and eventually form daughter cysts within the original cyst ^[2, 3].

The hydatid cyst is unique and localized in the right lobe of the liver in 65%. The most frequent extrahepatic locations are the lungs, the spleen and the peritoneum. Liver (55-70%) is the obvious first site after entry through the gut and passage in the portal circulation. Most cysts tend to be located in the right lobe ^[4]. As the cysts enlarge local pressure causes a mass effect on surrounding tissue producing commensurate symptoms and signs. These may be

generalized with upper abdominal pain and discomfort or more specific. Such as; obstructive jaundice. Biliary rupture may occur through a small fissure or bile duct fistula. A wide perforation allows the access of hydatid membranes to the main biliary ducts, which can cause symptoms simulating choledocholithiasis. Alternatively, it may produce a picture very similar to ascending cholangitis with fever, pain and jaundice ^[5, 6].

Methodology

Study design: Descriptive case series study.

Study setting: This study was carried out in the Department of Surgery.

Study population: The patients attended surgical OPD and got admitted with hydatid cyst of Liver during the study period.

Inclusion criteria

Patients presenting with varying gastrointestinal symptoms and signs, and symptoms of space occupying lesions of liver like obstructive jaundice, mass per abdomen, patients with complications due to rupture of hydatid cyst.

Exclusion criteria

1. Extra hepatic hydatid cyst.
2. Advanced complications where diagnosis was difficult.

Sample size: A total of 30 cases of hydatid cyst of Liver.

Method of sampling: Non-probability purposive sampling technique.

Method of collection of data

Study tool: Pre-tested semi structured Questionnaire.

The Questionnaire was presented in the Department for critical review, following which necessary changes were made in the Questionnaire.

Data was collected using Pre-tested semi structured Questionnaire by interview technique. The informants were informed about the study.

For all patients' meticulous records was maintained regarding clinical features, family history, dietary habits and by performing various investigations.

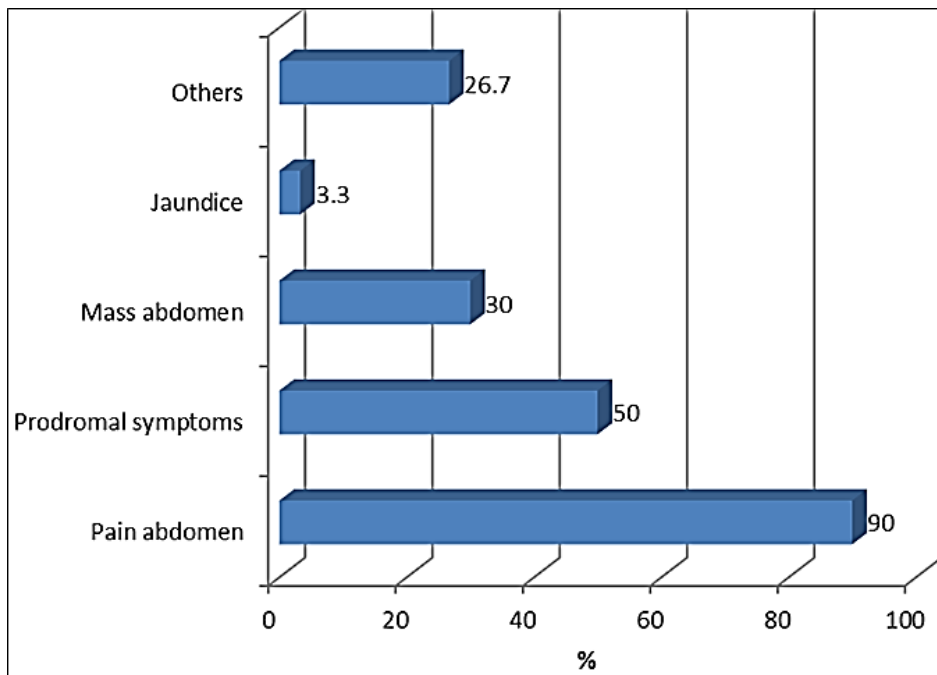
Results

Table 1: Distribution based on chief complaints

Chief complaints	Frequency	Percentage
Pain abdomen	27	90.0
Prodromal symptoms	15	50.0
Mass abdomen	9	30.0
Jaundice	1	3.3
Others	8	26.7

The most common presenting complaint was pain abdomen (90%) followed by mass abdomen (30%).

Prodromal symptoms was present in 50% of patients.
 Jaundice was present in 3.3% of patients.

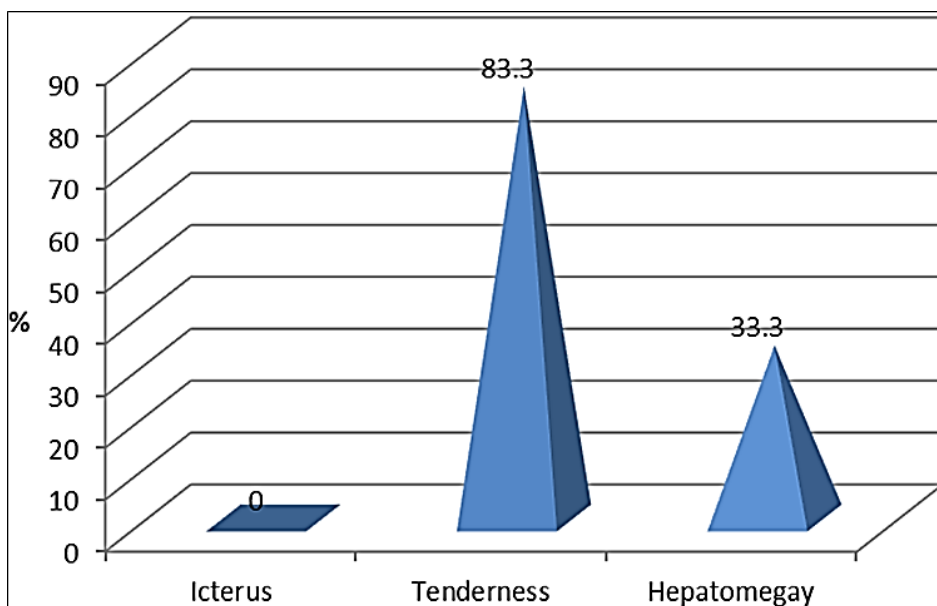


Graph 1: Chief Complaints

Table 2: Distribution based on clinical findings

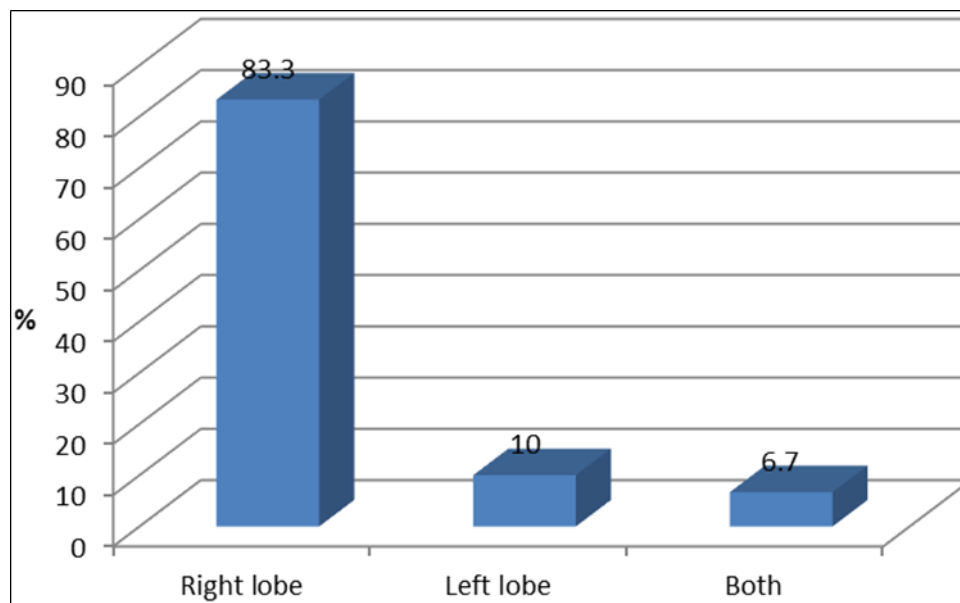
Clinical findings	Frequency	Percentage
Icterus	00	00
Tenderness	25	83.3
Hepatomegaly	10	33.3
Others	12	40.0

Tenderness was present in 83.3% of patients.
 Hepatomegaly was present in 33.3%.



Graph 2: Clinical Findings

The most common lobe involved was right lobe (83.3%). Both lobes were affected in 6.7% of patients.



Graph 3: Liver Involvement

Discussion

Patients may also present with complications of the cyst such as biliary communication, intraperitoneal rupture (spontaneous or post-traumatic) and rarely, intrathoracic or intrapericardial rupture.

Cyst rupture can be associated with anaphylaxis secondary to the highly antigenic content of the cyst fluid or may be silent and present with multiple intraperitoneal cysts.

With secondary infection, tender hepatomegaly, chills and spiking temperatures occurs. Urticaria and erythema occur in cases of generalized anaphylactic reaction. With biliary rupture the classic triad of jaundice, biliary colic and urticaria occurs [7].

The diagnosis is most easily set by ultrasound or other imaging techniques such as CT-scan or MRI, combined with case history. Serology tests such as ELISA or immunoblotting can be used in addition, being 80-100% sensitive for liver cysts but only 50-56% for lungs and other organs [40]. False positive reactions may occur in persons with other tapeworm infections, cancer, or chronic immune disorders. Whether the patient has detectable antibodies depend on the physical location, integrity and viability of the cyst. Patients with senescent, calcified or dead cysts usually are sero-negative. Patients with alveolar echinococcosis have most of the time detectable antibodies. Fine needle biopsy should be avoided if dealing with *E. granulosus* since there is a great danger of leakage with subsequent allergic reactions and secondary recurrence.

A great part of the patients treated for hydatid disease get their diagnosis incidentally, seeking medical care for other reasons [8].

The time at when a previously silent cyst gives rise to pathology depends both on the size of the cyst, but also on its location, making presenting symptoms of cystic echinococcosis highly variable. Most presenting features are caused by the pressure that the enlarged cyst expels on its surroundings, but may also appear if there is a rupture of a cyst.

Symptoms leading to diagnosis mostly include abdominal pain, jaundice (caused by biliary duct obstruction) or a palpable mass in the hepatic area. Cysts in the liver may also cause cirrhosis.

If the cyst is damaged, there may be a leakage of fluid from inside. This fluid contains

antigens that are highly toxic, causing allergic reactions like fever, asthma, urticaria, and eosinophilia and in some cases anaphylactic shock ^[9].

Considering that the early stages of infection are usually asymptomatic, the diagnosis of liver hydatid cyst may often be incidental, associated with an abdominal ultrasonography performed for other clinical reasons. In endemic areas, the presence of symptoms suggestive of hydatid liver cyst in a person with a history of exposure to sheep and dogs supports the suspicion of hydatidosis.

The definitive diagnosis of liver echinococcosis requires a combination of imaging, serologic, and immunologic studies ^[10].

Routine laboratory tests are rarely abnormal occasionally eosinophilia may be present in the presence of cyst leakage or may be normal. Serum alkaline phosphatase levels are raised in one third of patients.

Conclusion

- The most common presenting complaint was pain abdomen (90%) followed by mass abdomen (30%).
- Prodromal symptoms was present in 50% of patients.

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