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RESEARCH ARTICLE

CASE REPORT: GIANT HYDATID CYST OF THE LIVER IN A YOUNG PATIENT: SURGICAL MANAGEMENT AND LONG-TERM FOLLOW-UP

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Abstract

Hydatid disease, caused by the parasite Echinococcus granulosus, remains a significant public health issue in endemic areas, especially in rural settings. This report presents the case of an 18-year-old female patient residing in a rural area, with no significant medical history, who developed a symptomatic hepatic hydatid cyst. The patient was treated surgically without preoperative antiparasitic therapy and was placed on postoperative albendazole. The case highlights the importance of timely surgical intervention and long-term follow-up to prevent recurrence.

Introduction:-

Hydatid disease is a zoonotic infection caused by Echinococcus granulosus, a tapeworm commonly transmitted through contact with infected animals, particularly dogs and livestock. The disease predominantly affects the liver (50-70% of cases), followed by the lungs, though virtually any organ can be involved [1-3]. Hydatid disease is endemic in rural and agricultural areas, where close interaction between humans and infected animals facilitates transmission [4,5].

While the infection often remains asymptomatic for years, complications arise when cysts grow, leading to symptoms caused by mass effect or cyst rupture [6,7]. The clinical presentation can vary, ranging from incidental findings on imaging to acute abdomen in cases of rupture or secondary infection [8]. Surgical excision remains the treatment of choice for large or complicated cysts, often combined with antiparasitic therapy to prevent recurrence [9,10].

This case report describes a young female patient presenting with a large hepatic hydatid cyst and highlights the importance of prompt surgical management, particularly in a rural setting where access to healthcare may be delayed.

Case Presentation

Patient History

An 18-year-old female, residing in a rural area, presented to the emergency department with diffuse abdominal pain persisting for two months. Over the previous week, the pain had worsened and was associated with abdominal heaviness that impeded her ability to walk. She also reported nausea and a fever of 39°C. The patient had no significant past medical history, no known allergies, and no previous surgeries. There was no family history of parasitic diseases or other relevant illnesses.

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Clinical Examination
Upon examination, the patient was febrile (39°C), and a large, warm, and erythematous swelling was noted in the left lateral quadrant of the buttock. The rest of the physical examination was unremarkable. No hepatomegaly, jaundice, or other systemic signs were observed.

Laboratory Findings
Laboratory tests revealed an elevated C-reactive protein (CRP) level of 53 mg/L, indicating a significant inflammatory response. The white blood cell count was within normal limits (8,870/mm³), but a notable eosinophilia (2,500/mm³) was present, suggesting a parasitic infection.

Imaging
A thoraco-abdomino-pelvic CT scan was performed, revealing a large hydatid cyst in the liver, classified as type III according to Gharbi's classification. The cyst measured 190 × 172 × 235 mm, with significant mass effect on adjacent structures but without evidence of rupture or additional cysts elsewhere in the body (Figure 1)

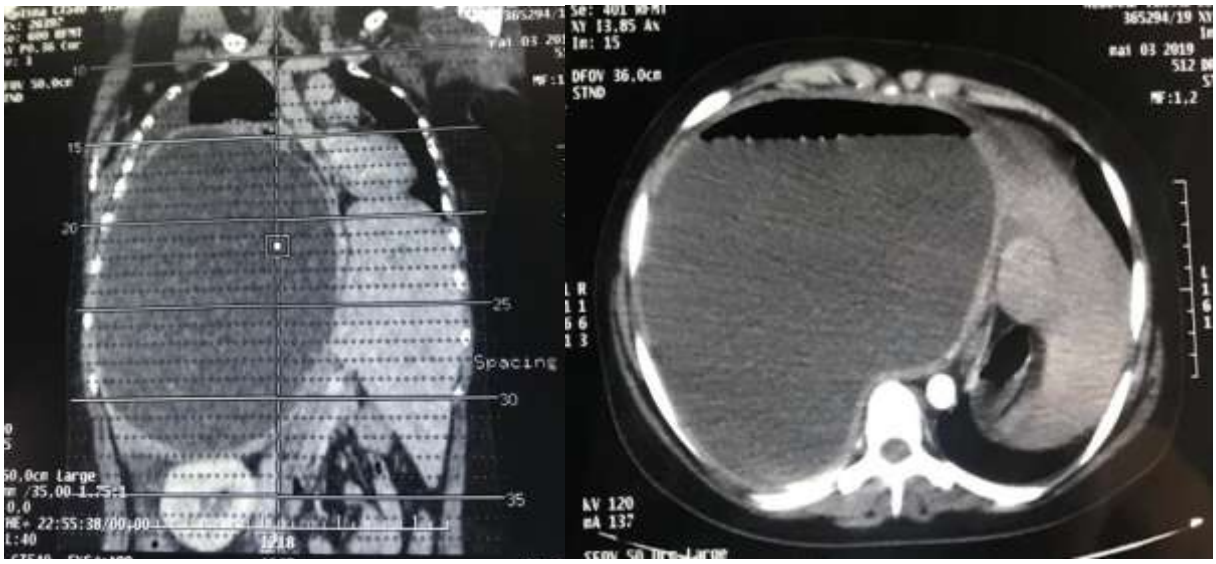

Figure 1:- CT scan showed a large hydatid cyst in the live.

Surgical Intervention
Given the size of the cyst and its symptomatic nature, the patient underwent surgery under general anesthesia. During the procedure, hydrogen peroxide-soaked gauze was used to minimize the risk of intraoperative spillage and contamination, which can lead to recurrence. A resection of the prominent dome of the cyst was performed. The postoperative course was uneventful, with good clinical and biological recovery.

Postoperative Management
Pathological examination confirmed the diagnosis of a hydatid cyst, showing the presence of scolices and the characteristic lamellar membrane. Due to the risk of recurrence, the patient was started on albendazole (400 mg twice daily) for six months postoperatively. Monthly monitoring of liver enzymes was initiated to detect potential hepatotoxicity from prolonged albendazole use. Follow-up imaging over a 12-month period revealed no signs of recurrence.

Discussion:-

Hydatid disease remains a major public health issue, particularly in endemic regions such as rural areas with close proximity to livestock. Transmission occurs when humans ingest food or water contaminated with **Echinococcus** eggs, often through contact with dogs or sheep [11,12].

Giant Hydatid Cysts in Young Patients
Giant hydatid cysts, typically defined as cysts larger than 10 cm in diameter, are a rare presentation, especially in young individuals. The majority of cases of hydatid cysts occur in middle-aged adults, as the infection generally

progresses slowly over many years. In contrast, the development of a giant cyst in a young patient, as in the case described here, is uncommon [13,14]. The rapid growth of the cyst in this case may be due to a combination of genetic factors, the immune response, and environmental exposure [15].

The rarity of giant hydatid cysts in young patients poses a diagnostic and therapeutic challenge. These cysts can remain asymptomatic for long periods, delaying diagnosis until they reach a size that causes significant mass effect on surrounding structures, such as the liver, lungs, or other organs. In our case, the patient presented with nonspecific symptoms of abdominal pain and heaviness, which are typical of large hepatic cysts that exert pressure on nearby organs. Giant cysts also carry a higher risk of complications, including rupture, infection, or biliary obstruction, making early detection and management critical [16].

Surgical Management

Surgical treatment remains the cornerstone of therapy for large or complicated hydatid cysts [17,18]. In our case, a resection of the protruding dome was performed. While preoperative albendazole is recommended to sterilize the cyst and reduce the risk of intraoperative dissemination [19], the patient did not receive this due to the urgency of her symptoms. Nonetheless, postoperative albendazole was initiated to prevent recurrence, which has been shown to be effective in reducing the viability of remaining scolices [20].

Postoperative Follow-up

The importance of long-term follow-up cannot be overstated. Even after successful surgery, recurrence rates can be as high as 10-30%, particularly in cases of spillage during surgery [21]. Albendazole treatment for at least 3-6 months postoperatively is crucial in preventing recurrence [22-24]. Our patient was treated for six months with monthly monitoring of liver function, and no recurrence was observed after 12 months of follow-up.

Limitations

One limitation of this case report is the lack of preoperative antiparasitic therapy, which may have reduced the risk of intraoperative spillage. However, the rapid evolution of symptoms necessitated prompt surgical intervention. Additionally, long-term follow-up beyond 12 months is required to definitively rule out recurrence.

Conclusion:-

This case highlights the importance of considering hydatid disease in patients from rural areas presenting with nonspecific abdominal symptoms and eosinophilia. Early diagnosis and timely surgical intervention are crucial in preventing complications. The combination of surgery and postoperative albendazole is effective in preventing recurrence, as evidenced by the patient's favorable outcome at 12 months. Hydatid disease remains a challenge in endemic regions, and heightened awareness among healthcare professionals is essential for early detection and management.

References:-

1. Eckert J, Deplazes P. Biological, epidemiological, and clinical aspects of echinococcosis: a zoonosis of increasing concern. Clin MicrobiolRev. 2004;17(1):107-135.
2. Moro PL, Schantz PM. Echinococcosis: a review. Int J Infect Dis. 2009;13(2):125-133.
3. Siles-Lucas M, Jenkins DJ. Echinococcus granulosussensulato and Echinococcus multilocularis: a review of laboratory methods for their diagnosis in definitive and intermediate hosts. VetParasitol. 2011;177(1-2):1-16.
4. Craig PS, McManus DP, Lightowlers MW, et al. Prevention and control of cystic echinococcosis. Lancet Infect Dis. 2007;7(6):385-394.
5. Brunetti E, Kern P, Vuitton DA; Writing Panel for the WHO-IWGE. Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. Acta Trop. 2010;114(1):1-16.
6. Moro P, Schantz PM. Cystic echinococcosis in the Americas. Parasitol Int. 2006;55(Suppl)
.
7. Polat P, Kantarci M, Alper F, et al. Hydatid disease from head to toe. Radiographics. 2003;23(2):475-494.
8. Dziri C. Hydatid disease–continuing serious public health problem: introduction. World J Surg. 2001;25(1):1-3.
9. Shambesh MA, Ridha AM, Abulkarim AO, et al. A comprehensive review on hydatid disease in Libya. Trop Med Int Health. 1999;4(6):499-507.
10. Zhang W, Wen H, Li J, Lin R, McManus DP. Immunology and immunodiagnosis of cystic echinococcosis: an update. Clin Dev Immunol. 2012;2012:101895.

11. Budke CM, Deplazes P, Torgerson PR. Global socioeconomic impact of cystic echinococcosis. Emerg Infect Dis. 2006;12(2):296-303.
12. McManus DP, Zhang W, Li J, Bartley PB. Echinococcosis. Lancet. 2003;362(9392):1295-1304.
13. Gharbi HA, Hassine W, Brauner MW, Dup.