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Spontaneous Hydatid Peritonitis: A Case Report

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Abstract | **Original Research Article**

Hydatid peritonitis secondary to intraperitoneal rupture of a liver hydatid cyst is rare. We report the case of a 23-year-old patient admitted for acute generalised abdominal pain without fever or jaundice. Imaging revealed a ruptured segment IV hydatid cyst with early peritonitis. Surgical investigation revealed a ruptured segment IV hydatid cyst with biliary fistula and complicated peritonitis. The aim of this study is to report a case of intraperitoneal rupture of a hydatid cyst of the liver with hydatid peritonitis and to describe the diagnostic and therapeutic difficulties encountered in the course of this complication.

Keywords: Hydatid cyst; spontaneous rupture; peritonitis; case report.

INTRODUCTION

The hydatid cyst is a benign parasitic disease due to the development of the larval form of the dog's taenia Echinococcus granulosus that affects the liver in particular [1]. It stills an endemic disease in Morocco.

Hydatid peritonitis is a rare complications associated with hydatid disease, accounting for approximately 1 to 2 % of cases. It represents a significant risk to the patient's well-being [2]. Despite its infrequency, hydatid peritonitis demands attention due to its potentially life-threatening nature. The aim of our work is to report a case of hydatid peritonitis due to spontaneous rupture of a hepatic hydatid cyst.

MATERIELS AND METHODES

CASE PRESENTATION

Clinical observation

Patient aged 23, from a rural area in north of Morroco, previously in good health, presented one day ago an intense generalized abdominal pain and vomiting, with a fever of 38.5.

Clinical examination revealed a conscious patient with haemodynamic and respiratory stability. Abdominal examination revealed generalised defensiveness and skin examination revealed urticarial plaques on the left flank and lower limb.

Laboratory investigations disclosed a biological inflammatory syndrome, with a white blood cell count of 16,000 cells/µL, a CRP level of 140 mg/L. Renal and coagulation profiles were within normal limits, as was the liver function test.

Abdominal ultrasound showed a finely echogenic intraperitoneal effusion of moderate size in the perihepatic, splenic and pelvic regions, secondary to fistulisation of a hydatid cyst in the hepatic dome responsible for hydatid peritonitis.

An emergency laparotomy was performed, Surgical exploration revealed a perihepatic effusion of moderate size, with a fistulised hydatid cyst in segment IV; the peritoneal fluid was aspirated, the protruding dome was resected and the cyst sterilised, and a biliary fistula was closed. The abdominal cavity was drained.

After a short stay in intensive care, the postoperative course was straightforward, with the drains removed on day 3 and the patient discharged on day 4. The patient was discharged on albendazole-based medical treatment, with subsequent follow-up. At 6 months follow up, patient was without evidence of recurrence.

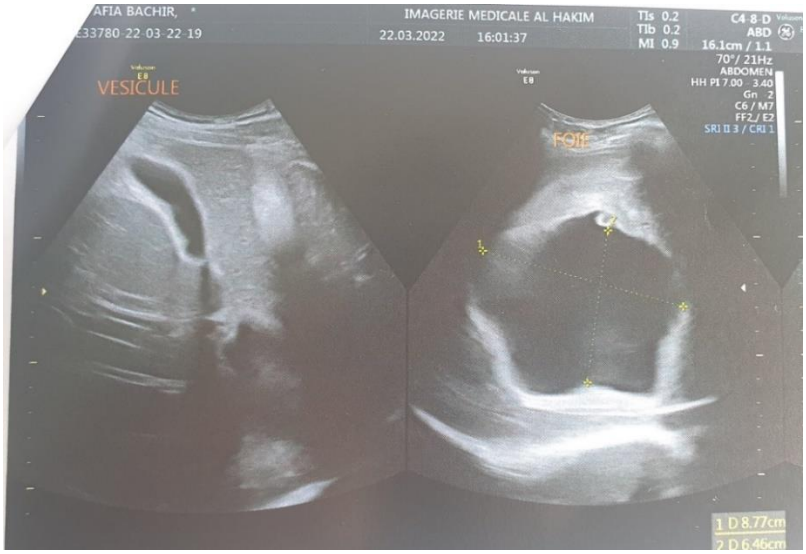

Figure 1: Abdominal ultrasound showing ruptured hydatid cyst

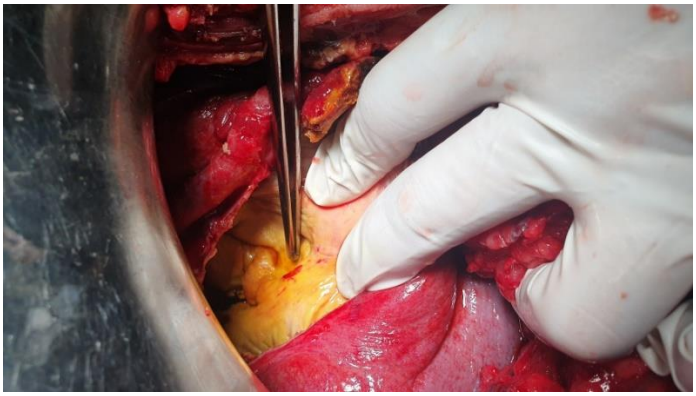

Figure 2: Intra operative image showing the hydatid cyst after unroofing with biliary communication

Figure 3: Closure of the biliary fistula using sutures

DISCUSSION

Hydatidosis is a cosmopolitan anthropozoonosis. it is an endemic disease in Morocco. It affects humans of all ages and sexes especially in rural areas. It affects all viscera without exception, with a particular tropism for the liver. Acute hydatid cyst rupture in the peritoneum is a rare complication of hydatidosis. Its frequency varies from 1% to 2%, depending on the series reported in the literature [3].

In fact, closed abdominal trauma accounts for 12% to 35% of ruptured hydatid cysts. The point of impact it's not always near to the cyst. Physical effort can also trigger rupture [3]. Rupture is said to be spontaneous when there is no triggering factor, as in our patient's case.

Ultrasound remains a simple and accessible option for diagnosing hydatid cysts. It enables diagnosis in 9 out of 10 cases, specifying the location, content and number of cysts, as well as intra-hepatic vascular and biliary relationships [4]. Gharbi's classification is the most comon used [5]. Ultrasound diagnosis is almost pathognomonic in stages II and III. Type V is also suggestive, but types I and IV can present real problems of differential diagnosis. Ultrasound can also provide signs in favor of a complication [4].

CT scanner is the most effective method for accurately determining the location of a cyst, identifying any associated cysts within the abdomen, and assessing vascular and biliary connections, with high sensitivity and high-resolution multiplanar reconstruction images [6].

The sensitivity of ultrasound and CT is 85 % and 100 %, respectively [4]. The treatment of ruptured liver hydatid cysts involves emergent surgical intervention after a short resuscitation [7]. Surgery aims to remove the cyst and its contents while minimizing the risk of anaphylactic shock by preventing the spillage of cyst contents into the peritoneal cavity. Peritoneal lavage with scolicidal solutions such as hypertonic saline or povidone-iodine helps reduce the risk of recurrence [8]. The remaining cystic contents should be evacuated, and the free edges of the cystic cavity widely excised [7]. In cases of perforated cysts within the liver, intraoperative cholangiography or a leakage test should be performed, using a methylene solution administered through the cystic duct to observe the relationship between the cyst and the biliary tract. Bile duct orifices leading to bile leakage should be repaired with various suture materials [8]. Abdominal drains should be placed into the cystic cavity and abdomen before closing the abdominal wall, a protocol followed in the management of our patient. Postoperative management of hydatid disease involves treatment with Albendazole (400 mg per day for three months), effectively eliminating the parasite and preventing recurrence. According to the literature, the treatment period should last between 1 and 12 months [7-10].

CONCLUSION

Spontaneous hydatid peritonitis is a rare but potentially life-threatening complication. Conservative surgical treatment remains the best life-saving procedure indicated in these cases.

Although it is rare, it should always be suspected in the presence of acute abdominal pain with a strong suspicion of hydatid cyst on radiology, especially in endemic countries such as ours.

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Consent: Consent is obtained by the family

REFERENCES

1. Dirican, A., Yilmaz, M., Unal, B., Tatli, F., Piskin, T., & Kayaalp, C. (2010). Ruptured hydatid cysts into the peritoneum: a case series. *European journal of trauma and emergency surgery*, *36*, 375-379.
2. Jabra, S. B., Chaouch, M. A., Sboui, R., Jellali, M., Daoued, R., Abdelali, M., ... & Noomen, F. (2023). A case report of abdominal wall hydatidosis: an uncommon location. *IDCases*, *33*, e01813.
3. Beyrouti, M. I., Beyrouti, R., Abbes, I., Kharrat, M., Amar, M. B., Frikha, F., ... & Ghorbel, A. (2004). Rupture aiguë du kyste hydatique dans le péritoine: À propos de 17 observations. *La Presse Médicale*, *33*(6), 378-384.
4. Sakhri, J., & Ben Ali, A. (2004). Hydatid cyst of the liver. *Journal de Chirurgie*, *141*(6), 381-389.
5. Gharbi, H. A., Hassine, W., Brauner, M. W., & Dupuch, K. (1981). Ultrasound examination of the hydatic liver. *Radiology*, *139*(2), 459-463.
6. Mejri, A., Arfaoui, K., Omry, A., Yaakoubi, J., Mseddi, M. A., Rchidi, J., ... & Ellouze, M. M. (2021). Acute intraperitoneal rupture of hydatid cysts of the liver: Case series. *Medicine*, *100*(44), e27552.
7. Akbulut, S., & Ozdemir, F. (2019). Intraperitoneal rupture of the hydatid cyst: four case reports and literature review. *World journal of hepatology*, *11*(3), 318-329.
8. Chaouch, M. A., Dougaz, M. W., Khalfallah, M., Jerraya, H., Nouira, R., Bouasker, I., & Dziri, C. (2019). A case report of complicated appendicular hydatid cyst mimicking an appendiceal mucocele. *Clinical journal of gastroenterology*, *12*, 574-577.
9. Yilmaz, M., Akbulut, S., Kahraman, A., & Yilmaz, S. (2012). Liver hydatid cyst rupture into the peritoneal cavity after abdominal trauma: case report and literature review. *International surgery*, *97*(3), 239-244.
10. Toumi, O., Noomen, F., Salem, R., Rabeh, H., Jabra, S. B., Korbi, I., ... & Hamdi, A. (2017). Intraperitoneal rupture of hydatid cysts. *European Journal of Trauma and Emergency Surgery*, *43*(3), 387-391.