Primary extrahepatic echinococcosis of the right lower abdomen

Ingeborg Bohlmann, Johannes Zitt, Bertram Wagner

ABSTRACT

Introduction: Primary, intraperitoneal hydatidosis without involvement of the liver is a rare occurrence. Due to vague symptoms, echinococcosis is often neglected as a differential diagnosis. Case Report: We present a case of a primary extrahepatic echinococcal cyst, located in the peritoneal cavity and in immediate contact to the right psoas muscle. After initial medical treatment, the cyst was surgically removed via laparotomy. Parts of the psoas muscle had to be removed due to muscle invasion and as the impairment of vena caval blood flow seemed imminent. Apart from a minor ventral thigh paraesthesia, the patient recovered well after surgery. Conclusion: Imaging and serologic tests are described as standard tools for diagnosing echinococcosis. Nevertheless, in uncertain cases, PCR analysis has proven to be useful. Conservative therapy of large intraabdominal echinococcal cysts has recently gained more interest. However, if the cyst is located in uncommon areas, surgery is the treatment of choice. Despite advanced imaging techniques, diagnosing intraabdominal extrahepatic echinococcosis to be quite challenging and should be included in the differential diagnosis of abdominal pathologies.

Keywords: Echinococcosis, Hydatidosis, Extrahepatic, Abdominal tumor

Bohlmann I, Zitt J, Wagner B. Primary extrahepatic echinococcosis of the right lower abdomen. International Journal of Case Reports and Images 2012;3(5):25–27.

doi:10.5348/ijcri-2012-05-120-CR-5

INTRODUCTION

The predominant forms of echinococcosis in humans are cystic echinococcosis (CE) and alveolar echinococcosis (AE). Primary infection of extrahepatic organs or structures is rare, so far only a few cases have been reported. The most common route of transmission for EC is oral transmission and requires two mammalian hosts. After ingestion of eggs and egg containing segments by a definitive host like dogs or an aberrant host like humans, the cystic metacestode develops in internal organs, preferentially in the liver [1, 2].

Intraperitoneal hydatidosis is often difficult to diagnose, symptoms are vague and are seldom more specific like an anaphylactic reaction. However, in intraperitoneal hydatidosis severe complications are exceptional [3].

We present a case of intraabdominal CE without initial hepatic involvement in a 33-year-old gardener.
CASE REPORT

We like to report a case of a 33-year-old male with an indolent palpable mass of the right lower abdomen, initially suspected to be a teratoma. The patient did not recall any other irregularities, medical history did not disclose any serious illness.

Aside from a slight tenderness around the mass, physical examination did not reveal any abnormalities, fever was absent and laboratory tests were normal.

Computed tomography and a previously performed ultrasound, both affirmed a single septate lesion, partly cystic, partly solid, without wall calcifications or daughter cysts. It measured approximately 20x12x11 cm. The inactive part was classified as WHO stage IV, the active part WHO stage II. The cyst was located in immediate contact to the psoas muscle. Other crucial structures seemingly were not affected (Figure 1). There was no evidence of hydatidosis of the liver or the lung. Subsequently, a serologic test showed antibodies against EC, with a highly positive titre of 1:1684.

In cooperation with the department of infectiology, University Hospital Ulm, a therapy with eska zo le was started.

Unfortunately, medical treatment did not have any significant impact on the size of the mass. A six month follow up ultrasound and MRI only showed signs of regression. As the imaging results arose suspicion of involvement of vital structures within the lesion and the fact that the patient refused to take eska zole on a long term basis, it was decided to remove the cyst via laparotomy.

Intraoperatively, the tumor was extending up to the psoas muscle and the right kidney, already compromising the inferior vena cava. The distal part of the cyst was located within the muscle. Because of psoas muscle involvement small parts of the muscle had to be removed (Figure 2). Histopathological examination confirmed an echinococcus granulosus cyst that has been fully extirpated without any scolices (Figure 3).

During the postoperative course the patient recovered well, neurologic examination did not reveal any loss of motor function. He reported ventral thigh paraesthesia which was compatible with affection of the lateral femoral cutaneous nerve due to bulky adhesions and muscle invasion in that area.

To present the risk of re-infection the patient was recommended to continue eska zole therapy for four weeks after the surgery.

DISCUSSION

Primary intraabdominal hydatidosis generally causes non-specific symptoms like dull pain or a palpable mass with a variety of differential diagnoses [3, 4]. In this case, the patient gave a short history of abdominal swelling without any obvious organ dysfunction. Although major complications are rare, rupture of an
intraperitoneal cyst due to trauma or increased pressure can be fatal, necessitating emergency surgery [5].

Despite advanced imaging techniques the cyst formation can be easily mistaken for other pathologies like abscesses or malignancies, especially when occurring at uncommon sites. Single cystic lesions are often difficult to distinguish from other peritoneal cysts like mesenteric cysts. Once diagnosed, ultrasonography seems to be a useful tool for follow up [6].

In our case radiologic imaging suggested an expanded teratoma. The CT scan showed a single heterogenous cyst with intracystic membranes. Typical attributes like wall attenuation, calcification or daughter cysts, were absent [7]. Since the patient did not show any signs of infection an abscess was ruled out. Due to the patient being a gardener by profession, a serological test was performed immediately to arrive at a quick diagnosis. However, the sensitivity of serology for ED varies, false negative results seem to occur more likely in cases with unusual locations. Under these circumstances PCR analysis has proved to be a useful diagnostic method [8, 9].

Although surgery is still the treatment of choice, percutaneous procedures have gained increasing interest and have been used successfully [10]. For EC at uncommon locations, however, surgery with complete cyst extraction accompanied by medical treatment is the preferred method [4, 10].

CONCLUSION

In this case the positive serology lead quickly to a final diagnosis. Several authors reported the difficulties of relating the diverse clinical features to primary extrahepatic CE. In endemic areas or in patients with risk factors (farmers, gardeners) the possibility of CE should be regarded as a differential diagnosis of abdominal pain and swelling.

**********

Author Contributions

Ingeborg Bohlmann – Conception and design, Acquisition of data, Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published
Johannes Zitt – Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published
Bertram Wagner – Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© Ingeborg Bohlmann et al. 2012; This article is distributed under the terms of Creative Commons attribution 3.0 License which permits unrestricted use, distribution and reproduction in any means provided the original authors and original publisher are properly credited. (Please see www.icjaserportsandimages.com /copyright-policy.php for more information.)

REFERENCES

1. Eckert J, Deplazes P. Biological, epidemiological, and clinical aspects of echinococcosis, a zoonosis of increasing concern. Clin Microbiol Rev 2004;17:107–35.
2. Kern P, Bardomnet K, Renner E, et al. European echinococcosis registry: human alveolar echinococcosis, europe, 1982-2000. Emerg Infect Dis 2003;9:343–9.
3. Sing P, Mushaq D, Verma N, Mahajan NC. Pelvic hydatidosis mimicking a malignant multicystic ovarian tumor. Korean J Parasitol 2011;48:263–5.
4. Abu-Eshy SA. Some rare presentations of hydatid cyst (Echinococcus granulosus). J R Coll Surg Edinb 1998;43:347–2.
5. Kara M, Tihan D, Fersahoglu T, Cavda F, Titzit I. Biliary peritonitis due to fallen hydatid cyst after abdominal trauma. J Emerg Trauma Shock 2008;1:53–4.
6. Nell M, Burgkart RH, Gradl G, et al. Primary extrahepatic alveolar echinococcosis of the lumbar spine and the psoas. Ann Clin Microbiol Antimicrob 2011;10:3.
7. Ilica AT, Kocaoglu M, Zeybek N, et al. Extrahepatic abdominal hydatid disease caused by echinococcus granulosus: imaging findings. Am J Roentgenol 2007;189(2):337–43.
8. Mathis A, Deplazes P, Kohler P, Eckert J. PCR for detection and characterization of parasites(Leishmania, Echinococcus, Microsporidia, Giardia) Schweiz Arch Tierheilkd 1996;138:133–8.
9. Georges S, Villard O, Filisetti D, et al. Usefulness of PCR analysis for diagnosis of alveolar echinococcosis with unusual localizations: two case studies. J Clin Microbiol 2004 Dec;42(12):5954–6.
10. Yasawy MI, Mohammed AE, Bassam S, Karawi MA, Sharig S. Percutaneous aspiration and drainage with adjuvant medical therapy for treatment of hepatic hydatid cysts. World J gastroenterol 2011;17:646–50.