J Interdiscipl Histopathol 2014; 2(1): 56-60 *ISSN: 2146-8362*

Case Report

Unusual Locations of Hydatidosis: Cryptorchid Testicle and Peritoneum

Faten Limaiem[1], Sirine Bouslama[1], Rached Bayar[2], Sana Ben Slama[1], Ahlem Lahmar[1], Saâdia Bouraoui[1], Sabeh Mzabi[1]

Departments of Pathology[1] and Surgery[2], Université de Tunis El Manar, Faculté de Médecine de Tunis, Mongi Slim Hospital, La Marsa, Tunisia

Received: January 07, 2014

Accepted: January 17, 2014

Published Online: January 20, 2014

DOI: 10.5455/jihp.20140117032106

Corresponding Author:
Faten Limaiem
Department of Pathology, Mongi Slim Hospital -La Marsa- TUNISIA.
fatenlimaiem@yahoo.fr

Abstract

Hydatid cyst is a parasitic infection due to the larval stage of the tapeworm Echinococcus. It most commonly involves the liver and lung. Location at unusual sites in the body can have atypical presentations and poses a diagnostic challenge. Herein, the authors report a new case of hydatid disease involving the peritoneum and the tunica vaginalis of a cryptorchid testicle in a 57-year-old patient. They conclude that hydatid disease should be kept in mind when a cystic lesion in encountered in the testicle or the peritoneum in endemic areas.

Keywords: Hydatid cyst; peritoneum; tunica vaginalis; cryptorchid testicle

INTRODUCTION

Hydatid cyst is a parasitic infection which can occur in any part of the body. The liver and lung are the most frequently involved organs. Peritoneal hydatid disease is rare, accounting for 13% of all abdominal hydatidosis [1, 2]. Hydatid cyst of the testicle is exceptional with only five cases reported in the English language literature to date [3-7]. Location of hydatidosis at unusual sites in the body can have atypical presentations and poses a diagnostic challenge.

Herein, we report a new case of hydatid disease involving the peritoneum and the tunica vaginalis of an undescended testicle in a 57-year-old patient. To the best of our knowledge, hydatid cyst of undescended testicle has been reported only once in the English language literature [8].

CASE PRESENTATION

A 57-year-old male patient with no significant past medical history, presented with progressively increasing abdominal distension, vomiting and intermittent bulging in the left groin for the past one month. The patient did not report previous abdominal trauma. Upon admission, the patient was well and his vital signs were stable. On physical examination, his abdomen was distended but non tender. Local examination showed a large left inguinal hernia which could not be completely reduced into the abdominal cavity. The left testicle could not be palpated in the scrotum. Routine laboratory investigations were within normal limits. Serological tests for hydatid disease were not performed. Computerized tomography (CT) scan demonstrated multiple peritoneal unenhanced hypoattenuating cystic masses with well-defined borders and partially calcified wall (**Figure 1**). These cysts produced a pressure affect on surrounding structures without invading them. The liver was within normal limits devoid of cysts. The right kidney was ectopic with a pelvic localization and an accessory spleen was present. Chest X-ray did not reveal any coexistent lesions in the lungs. The patient underwent left inguinal hernia repair, left orchiectomy of the cryptorchid testicle and excision of the peritoneal masses. Macroscopically, the peritoneal masses were full of membranous debris and gelatinous fluid (**Figure 2**). The cryptorchid testicle was small measuring 3,5 cm in diameter. On cut section, it was brown and there was a 1 cm cyst in the tunica vaginalis filled with membranous debris.

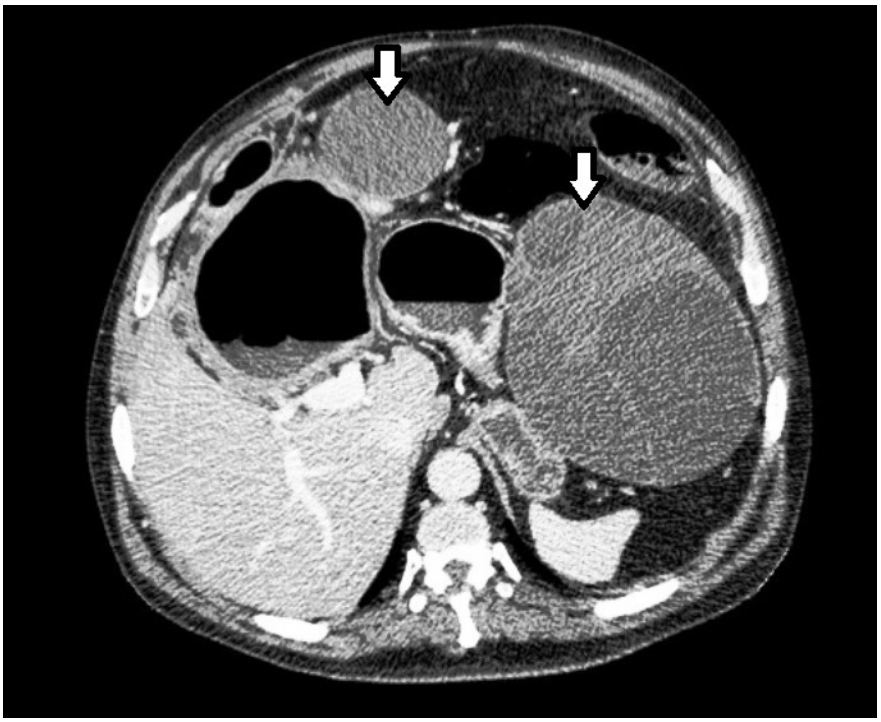

Figure 1. Computed tomography scan demonstrating the presence of peritoneal unenhanced hypoattenuating cystic masses with well-defined borders and partially calcified wall (arrows).

Figure 2. Macroscopic appearance of a peritoneal hydatid cyst filled with greenish necrotic material admixed with membranous debris.

Histopathological examination showed that the cysts found in the peritoneum and tunica vaginalis had a fibrocollagenous wall. Within the lumen, the presence of membranous cuticles, a germinative layer and scolex, were diagnostic features of a hydatid cyst (**Figure 3**). The cryptorchid testicle was histologically made of atrophic testicular tubules with greatly thickened basement membrane (**Figure 4**). The final pathological diagnosis was hydatid cyst of the peritoneum and tunica vaginalis of the left undescended testicle. On postoperative day 1, the patient died due to disseminated hydatid disease.

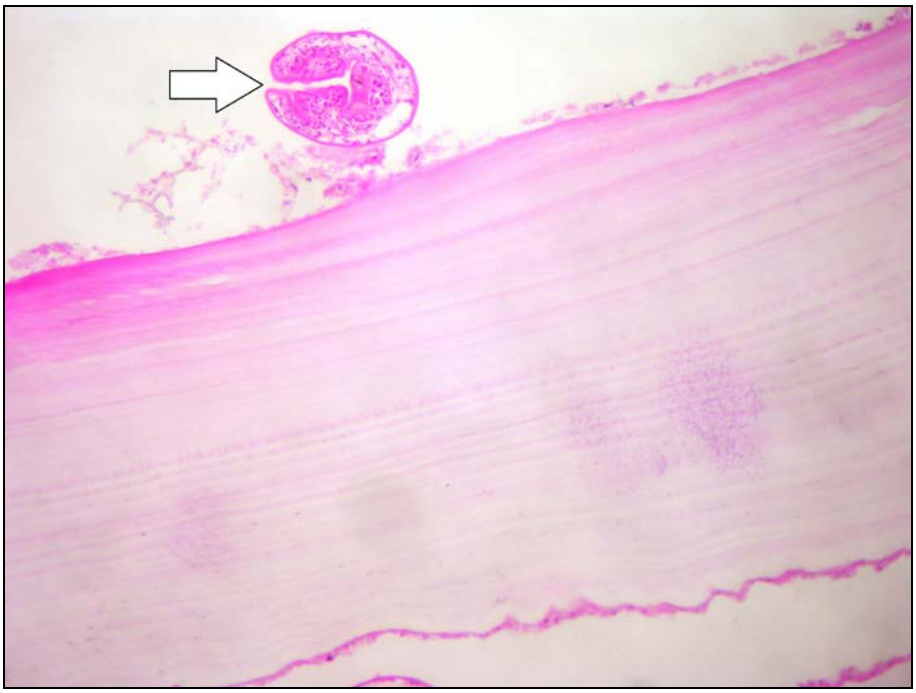

Figure 3. Microscopic appearance of the laminated membrane of a hydatid cyst with scolex (arrow) (Hematoxylin and eosin, × 40).

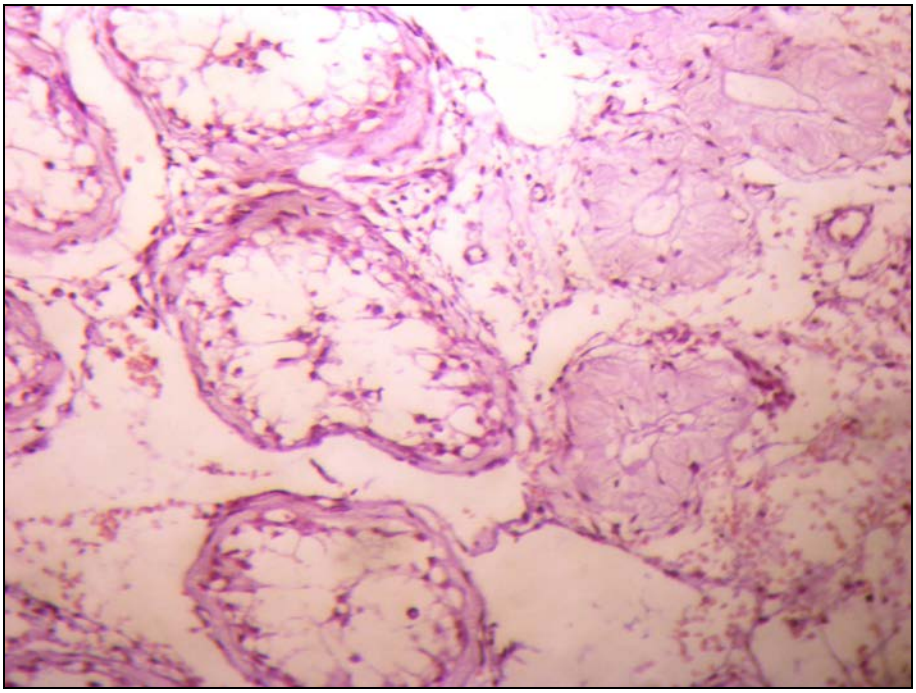

Figure 4. Atrophic testicular tubules with thickened basement membrane in undescended testes (Hematoxylin and eosin, × 100).

DISCUSSION

Hydatid disease is endemic in the cattle grazing areas particularly Australia, New-Zealand, Middle East, India, Africa, South America and Turkey [9]. It is a parasitic infection caused by the cestode tapeworm Echinoccocus granulosus. Dogs or other carnivores are definitive hosts, whereas sheep or other ruminants are intermediate hosts. Humans are secondarily infected by the ingestion of food or water that has been contaminated by dog feces containing the eggs of the parasite. After the outer capsule of the egg has been ingested, the freed embryo (oncosphere) enters a branch of the portal vein by passing through the duodenal mucosa. Most of these embryos become lodged in the hepatic capillaries, where they either die or to grow into hydatid cysts. Some pass through the capillary sieve and become lodged in the lungs and other organs [9]. In adults, the liver represents the prevalent site (50–70%) of hydatid disease followed by lung (10–30%) [10].

Hydatid cysts can also be found rarely in the peritoneum. Most of these cases are the result of traumatic or surgical rupture of a hepatic, splenic, or mesenteric cyst [11]. Primary peritoneal hydatidosis is rare and has been reported to occur in only 2% of all abdominal hydatid disease cases [12]. Our patient had no history of trauma or surgical intervention. Moreover, the liver and the spleen were devoid of hydatid cyst. Testes are extremely rare sites for echinococcosis. Only six cases of hydatid cyst involving descended and undescended testes have been reported in the English language literature to date [3-8]. The blood-testicular barrier, low temperature in the scrotum and different properties of the testicular tissue are suggested be the reasons of this defense mechanism explaining thereby the rarity of testicular involvement [3].

The clinical presentation of hydatid disease depends on the size and site of the lesion as well as on the accessibility of the organ involved. In presented case, hydatid cyst was incidentally discovered in the tunica vaginalis of the cryptorchid testicle during the surgery. Peritoneal involvement typically remains silent for years and is usually undetected unless cysts are large enough to cause symptoms.

The diagnosis is often difficult when hydatid cyst occurs at unusual locations as the imaging appearance varies at different sites. Ultrasonography and CT scan are both excellent imaging modalities for the detection of hydatid cysts. The usefulness of magnetic resonance imaging lays in the precise definition of the anatomic relationship due to the excellent resolution for soft tissues [3]. Diagnosis of hydatid disease is based on the patient's history, clinical findings, serum biochemical profiles, serologic tests and pathologic diagnosis. The treatment of choice for localized peritoneal cyst is principally a careful and complete surgical excision [4, 5]. The treatment with albendazole may prevent the recurrence of cysts.

In summary, a case of hydatid disease involving the peritoneum and tunica vaginalis of an undescended testis is reported along with pathological findings. In countries where echinococcosis is endemic, hydatid disease should be considered among the causes of cystic lesions of the peritoneum and testicle though it is rarely seen in such locations.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

1. Pedrosa I, Saíz A, Arrazola J, Ferreirós J, Pedrosa CS. Hydatid disease: radiologic and pathologic features and complications. Radiographics 2000; 20(3): 795-817.
2. Ilica AT, Kocaoglu M, Zeybek N, Guven S, Adaletli I, Basgul A, Coban H, Bilici A, Bukte Y. Extrahepatic abdominal hydatid disease caused by Echinococcus granulosus: imaging findings. Am J Roentgenol 2007; 189(2): 337-343.
3. Singh B, Wani AA, Ganai AA, Singh M, Baba K . Hydatid cyst of testis: An unusual presentation of hydatid disease - case report and review of literature. Indian Journal of Urology 2001; 18: 94-96.
4. Kumar PV, Jahanshahi S. Hydatid cyst of testis: a case report. J Urol 1987; 137(3):511-512.
5. Sivrikaya A, Celik ÖF, Özgur GK. An intrascrotal mass resulting from hydatid disease in an elderly patient: A case report. T Klin J Med Sci 2004; 24: 289-290.
6. Mahjob NK. Hydatid cyst in the scrotum: a case report and review of literature. Annals of the College of Medicine 2010; 36: 146-148.
7. Strohmaier WL, Bichler KH, Wilbert DM, Seitz HM. Alveolar echinococcosis with involvement of the ureter and testis. J Urol 1990; 144(3): 733-744.
8. Stavropoulos NE, Stylianidou A, Hastazeris K, Betsios J, Tsimoyiannis EC. Hydatid cyst in an undescended testis. Br J Urol 1995; 75(3): 418-419.
9. Polat P, Kantarci M, Alper F, Suma S, Koruyucu MB, Okur A. Hydatid disease from head to toe. Radiographics 2003; 23(2): 475-494.

10. Husen YA, Nadeem N, Aslam F, Bhaila I. Primary splenic hydatid cyst: a case report with characteristic imaging appearance. J Pak Med Assoc 2005; 55(5): 219-221.

11. Karavias DD, Vagianos CE, Kakkos SK, Panagopoulos CM, Androulakis JA. Peritoneal echinococcosis. World J Surg 1996; 20(3): 337-340.

12. Balik AA, Celebi F, Basoglu M. Intra abdominal extra hepatic echinococcosis. Surg Today 2001; 31: 881-884.