Multiple Disseminated Hydatidosis with Rare Locations: Mediastinal, Pancreatic and Pelvic (Case Report)

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ABSTRACT

Hydatid disease is an anthropozoonosis due to the development of the larval form of *Echinococcus granulosus* in the human body, which constitutes a ‘dead-end’ host. It’s a common parasitosis in North African countries and constitutes a public health problem in Morocco. The liver and lung are the most affected while the mediastinum, pancreas and pelvis are rarely affected. We report the case of a 40-year-old patient operated 15 years ago for cerebral and cervical hydatid cysts and who was hospitalized for generalized mucocutaneous jaundice. On exploration, we discover the presence of disseminated abdominal hydatidosis with association of 3 rare locations: mediastinal, pancreatic and pelvic. Indirect diagnostic tests were positive: indirect hemagglutination (IHA) and Elisa. The Western blot test also showed the presence of specific bands, thus making it possible to retain the diagnosis of hydatidosis. The hydatid cyst with mediastinal, pancreatic and pelvic location is rare and their association is very exceptional. It is essential to evoke the hydatid origin of any cystic lesion in a patient staying in an endemic area.

Keywords: Cyst, elisa, hydatidosis, western blot.

1. Introduction

Hydatid disease is a cosmopolitan anthropozoonosis caused by the larval form of *Echinococcus granulosus*. The Hydatid disease is endemic in the Middle East, South America, Turkey, Central Asia and Mediterranean countries including Morocco, where people have close contact with dogs [1]. The liver is the most affected organ followed by the lungs. These two locations account for 90% of echinococcosis cases [2] The mediastinal location is rare, not exceeding 4% in endemic areas [3], and its association with pancreatic and pelvic locations is exceptional. To our knowledge, this association has never been described in the literature.

We report the case of a patient with all these exceptional and poorly described locations of hydatid disease.

2. Case Report

He is a 44-year-old man, a peddler with a notion of contact with dogs, and has a history of cerebral and cervical hydatid cyst for which he was operated on 15 years ago. The symptomatology dates back 6 months with the installation of generalized mucocutaneous jaundice, associated with dark urine, discolored stools, and predominant abdominal pain in the hypochondria, all evolving in a context of apyrexia and impaired general condition. The clinical examination found a conscious and stable patient, afebrile and in poor general condition. There was hepatomegaly, the span of the liver was 16 cm, splenomegaly which exceeded the costal edge by 4 cm, and the hernial orifices as well as the digital rectal examination were normal.

Computed tomography (CT) revealed multiple hepatic cysts affecting the different segments, the largest of which measured 7 cm × 5 cm and was complicated by dilatation of the intrahepatic bile ducts. CT scan also showed multiple bilateral renal cysts, in addition to splenic cysts, some of which were septate. A pancreatic corporeocephalic cyst measuring 9 mm was also found. The analysis of the pelvic floor found contiguous cystic formations in the left external preiliac region measuring in total 6 cm × 4 cm. As for the thoracic level, we noted the presence of a posterior mediastinal cyst measuring 45 mm × 37 mm seat
of daughter vesicles and at the beginning of calcifications (Fig. 1).

Biologically, the patient had a positive hydatid serology with the 2 techniques: ELISA *Ridascreen®* (T = 10; CO = 1) and IHA *Fumouze®* (T = 1/2560, CO = 1/320). The Western blot had shown the presence of specific bands (Fig. 2). In addition, the patient had hepatic cytolysis with cholestasis syndrome and an abnormal prothrombin level <5%. The evolution was rapidly progressive and the patient died after a few days of hospitalization following a septic shock.

3. DISCUSSION

The highest prevalence of hydatid disease has been reported in countries in the temperate zone, including China, Central Asia, Australia, South America, and...
countries in the Mediterranean region such as Morocco [4]. Dogs are definitive hosts passing the eggs of these parasites in their faeces. Humans are accidental hosts and become infected after ingesting parasite eggs [1].

The liver is the most common organ for hydatid cysts followed by the lungs. Mediastinal hydatid cysts are rare. The absence of associated pleuro-pulmonary location is even rarer, which is the case in our patient [5]. Two hypotheses can explain this particular location, either that the parasite crosses the hepatic and pulmonary filter and ends up in the systemic circulation or either reaches the mediastinum via the lymphatic system [3]. The presence of calcifications and daughter vesicles is rare but contributes to the diagnosis, which is the case for our patient who indeed had an onset of calcification of the cyst wall with daughter vesicles.

Complications of mediastinal hydatid cysts are very serious, and include infection, compression of vascular structures, and rupture in the mediastinum, pleura and heart [6].

Hydatid cysts of the pancreas have been reported in the literature with an incidence of 0.14% to 2% depending on the series, with a majority cephalic location. Pancreatic infestation with Echinococcus granulosus occurs primarily by hematogenous spread [2]. When the cyst is located in the body or the tail of the pancreas, there are no particular clinical signs, whereas when it is cephalic, it can be complicated by obstruction of the bile ducts with the appearance of jaundice, such as in the case presented [7].

The pelvic hydatid cyst is rare and may be due either to hematogenous or lymphatic diffusion or to an intraperitoneal rupture of another cyst in the abdominal region. clinical signs are secondary to compression of adjacent structures [8]. CT and MRI are the most effective imaging techniques for diagnosing echinococcosis. Serology has a sensitivity between 80% and 100% and a specificity between 88% and 96% in the event of hepatic localization, only between 50% and 60% in the event of pulmonary involvement and between 25% and 56% in damage to other organs [9]. Elisa and Western blot tests have shown good diagnostic performance and good precision in the detection of hydatid cysts in patients whose the presence of cysts is confirmed [10].

A negative hydatid serology does not exclude the diagnosis and the western-blot test finds its place in case of diagnostic doubt since it has a very high sensitivity and specificity.

4. Conclusion

The hydatid cyst with mediastinal, pancreatic and pelvic location is rare and their association has never been described. It is essential to evoke the hydatid origin of any cystic lesion in a patient staying in an endemic area such as Morocco. Serology plays an important role in diagnostic confirmation.

Prevention is the most effective way to reduce the incidence of this pathology, hence the importance of raising awareness among people living in endemic areas.

Conflict of Interest

Authors declare that they do not have any conflict of interest.

References


Fig. 2. Western blot: the presence of specific bands of Echinococcus granulosus; E.g., Ag B, p7 et p16/18.