

Primary Hydatid Cyst of the Rib-Case Report

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Abstract

Case Report

Hydatid disease is an endemic zoonosis in rural countries, particularly in Algeria. It affects all organ but mainly the liver and lungs. The rib is exceptional localization. Its diagnosis is often late due to the lack of specificity and clinical latency that characterize this disease. The treatment is essentially surgical and is based on wide excision of the affected tissues. We report the case of a patient with primary rib hydatidosis treated surgically.

Keywords: Hydatid cyst, Rib, Surgery.

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INTRODUCTION

The hydatid cyst is a zoonosis due to human infestation by the hydatid larva of the tapeworm *Echinococcus granulosus*, it is a disease which affects several regions in the world especially in areas where sheep, cattle and other herbivores are reared.

It is a serious pandemic. Goinard insisted on this point by saying that it is the type of parasitic disease capable of contaminating all the organs, making it as dreadful as a cancer [1].

Hepatic and pulmonary localizations are by far the most frequent, bone hydatidosis remains a rare localization (0.5 to 2%).

Primary costal hydatidosis is an exceptional location, representing 0.18 to 1.21% of all hydatid locations [2, 3]. However, it is important to distinguish between primary and secondary costal infestation by rupture of a pulmonary or pleural hydatid cyst.

The analysis of the literature showed very few published cases. The aim of our work was to describe an observation of a patient presenting a primitive costal hydatid cyst and to specify the diagnostic means, therapeutic and evolutionary results.

OBSERVATION

We report the case of a 17-year-old girl from a rural area, with no particular clinical history, admitted

to our department for surgical treatment of a primitive hydatid cyst of rib.

The initial clinical examination is poor, apart from the presence of a left thoracic parietal swelling, renitent and painless on palpation.

The chest X-ray showed left parietal opacity with osteolysis of the anterior arch of the left 4th rib (Fig 1).



Fig 1: Radiological aspect of a hydatid cyst of the left 4th rib

CT-Scan had noted a multilocular cystic mass with osteolysis of the 4th rib and rupture of the cortex,

without pleural effusion and without pulmonary or abdominal secondary localizations (Fig 2).

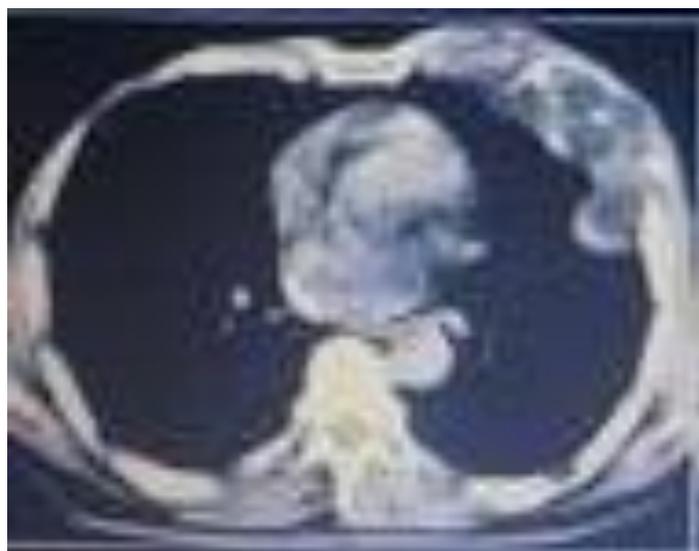


Fig 2: CT-Scan aspect multivesicular mass with osteolysis of the left 4th rib

This radiological appearance raised suspicion of the diagnosis of primary costal hydatid cyst, requiring confirmation and treatment by surgery. The patient was approached by anterior thoracotomy at the 4th left intercostal space. Surgical exploration objectified the presence of a multilocular hydatid bone cyst measuring 8 cm long axis, located along the anterior arch of the left fourth rib without exceeding the extrapleural space. After protection of the operative field with drapes soaked in 10% hypertonic saline serum and opening of the mass, multiple vesicles emerged. The surgical intervention consisted of the extraction of the proligerous membranes, wide resection of the anterior and middle arch of the left 4th rib and abundant cleaning for 10 minutes with 10% hypertonic saline.

Histopathological examination confirmed the diagnosis of rib hydatidosis. Postoperative treatment included antiparasitic chemotherapy with albendazol 800mg/d continued for three months. There were no intraoperative or postoperative complications, follow-up of the patient at 2 years by a CT scan did not show any recurrence.

DISCUSSION

If bone involvement by primary hydatid disease is rare, costal localization is unusual, however it seems important to distinguish primary costal involvement, as is the case of our patient, from Secondary hydatid cysts occur because of a spontaneous or intraoperative rupture of a pulmonary or mediastinal hydatid cyst.

The evolution of the hydatid cyst is slow and often asymptomatic manifesting itself by a simple chest

swelling which explains the slowness of the diagnosis, sometimes the clinical examination is limited to chest pain, intercostal neuralgia or signs of infection marked by fistulization [4, 5].

Standard radiology contributes little; it can show an image of cystic or multicystic bone lysis, as was the case with our patient. The diagnosis was supported by the anamnesis and the CT-Scan, indeed the thoracic or thoracoabdominal computed tomography allows in addition to the lesion assessment in search of secondary localizations, a meticulous analysis of the costal bone lesions by showing an image of intraosseous fluid density in the wall fine, multilocular containing multiple low dense cells, separated by partitions, not enhanced by the contrast product, and containing no calcifications [6].

Ultrasound can also guide the diagnosis by visualizing a hypoechoic multivesicular image. But the diagnosis of certainty can only be obtained by surgery and histopathology study of the surgical specimen.

Like all bone hydatid cysts, the treatment of costal hydatidosis is essentially surgical and must be undertaken as soon as the diagnosis is established because, although its evolution is slow, it can be done towards the destruction of the bone matrix responsible for fracture and debilitating pain and causes the spread of hydatid disease to the surrounding soft tissues and adjacent part of the skeleton making surgical treatment more difficult [7].

The aim of the treatment of costal hydatidosis is to eliminate all the parasitic and pericystic tissues. For this, wide resection passing largely through healthy areas is recommended [4, 8].

Complementary medical treatment based on albendazole at a dose of 10 to 15 mg/kg per day is recommended for a period of three months, subject to a correct hematological and hepatic assessment [9].

The distant evolution is marked by the potential risk of recurrence, justifying long-term follow-up of patients. Recurrence must be sought by clinical, radiological and serological examinations [10].

CONCLUSION

Hydatid disease remains a frequent pathology in Algeria, and mainly affects the liver and lungs, primary costal localization is exceptional and difficult to diagnose. However, it is necessary to know how to think about the diagnosis of the costal hydatid cyst in the case of a cystic tumefaction of the thoracic parietal, even asymptomatic, especially in endemic areas.

The prognosis is relatively good subject to wide surgical excision combined with antihelminthic medical treatment.

Conflict of interest: None declared.

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