

Breast Hydatid Cyst - Case Report

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Abstract

We report the case of a patient with a hydatid cyst of the breast occurring in Transylvania, Romania, a zone that does not belong to the endemic arial; we also give a brief review of the literature on this topic.

Our case was resolved with success through open surgery followed by anti-parasite medication. The patient no presented recurrence.

Keywords: Breast hydatid cyst, Mammography

Introduction

The mammary gland may represent an organ of primary localization of a hydatid cyst, but with an extremely rare frequency. Most of reported studies in the literature show isolated cases. Patients usually present a palpable and painless lump of the breast, and it is difficult to differentiate these cysts from other tumoral lesions of the breast. Diagnosis is frequently delayed because the symptoms lack specificity and, moreover, they mimic other pathological conditions [1]. We report the case of a patient with breast hydatid cyst in Transylvania, Romania, an area that is not considered endemic.

Case Presentation

A 56-year-old patient was hospitalized in the surgery department of the 5th Dept. of Surgery from Cluj-Napoca, for a painless round-oval and non-mobile tumor about 4/4 cm, located in the lower internal quadrant of the right breast, which was first detected by a mammography as a large, smooth walled, well defined opacity. The left breast and nipple were normal and there was no axillary or cervical lymphadenopathy. There was no history of injury, discharge from the nipple, or family history of breast cancer. She did not give any history of close contact with any animal Figure 1.

The ultrasound examination of the right breast showed a cystic image of the same size. The abdominal ultrasound and the thorax X-ray did not reveal any pathological signs. The lesion was solved surgically by a mammary right lower internal sectorectomy. Intraoperatively, the suspicion of a possible mammary hydatid cyst was made. The postoperative evolution was favorable Figures 2A and 2B.

The result of the histopathological test confirmed the diagnosis of a cyst covered inside by an anhistic membrane and vezicle daughters. The CT scan performed for checking probable simultaneous lesions was negative.

The patient followed an oral treatment with Albendazol for three months postoperatively. After these three months the patient did not present any signs of regional or distance recurrence.



Figure 1: Round-oval tumor about 4/4 cm, located in the lower internal quadrant of the right breast.

Discussion

Hydatid disease is a parasitic infection caused by the larval form of *Echinococcus granulosus* and it is endemic among sheep-raising communities, particularly in regions of South America, the Mediterranean shore (Spain, France and Italy), Eastern Europe, Turkey, East Africa, Central Asia, China, and Russia [2]. The history of echinococcosis dates back to Antiquity [3].

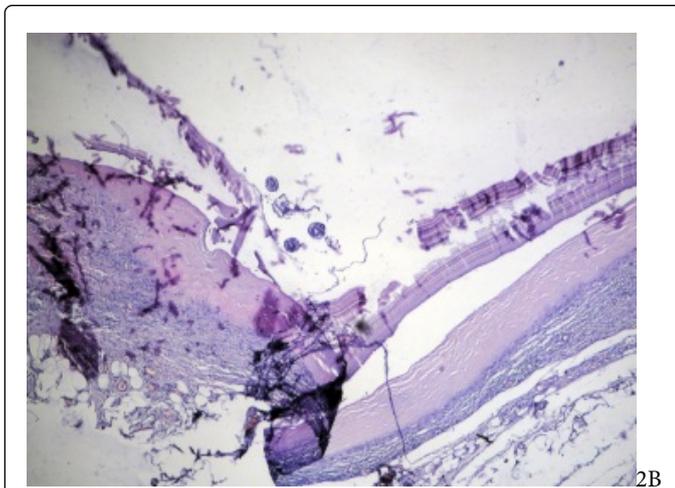
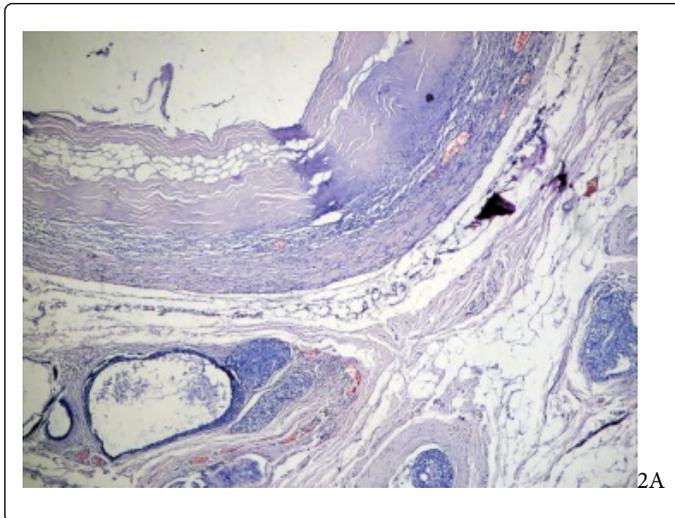


Figure 2: Mammary gland structure, pseudocyst with a conjunctive thick wall, without epithelial cells, surrounded by moderate lymphoid infiltration; anhistic membrane and vesicle daughters inside the cyst.

The adult *E. granulosus* produces eggs that are released in the stool of infected canines. Eggs ingested by intermediate hosts (cows, sheep and humans) release embryos in the duodenum, which penetrate the intestinal mucosa and enter into circulation [4]. The liver acts as the first filter, while the lungs act as a second filter. Only 15% of the embryos are free to develop cysts in other organs of the body [5]. Thus, the liver is the most common site affected (75%), followed by lungs (15%), muscles (4%), kidney (2%), spleen (2%), bone (1%) etc [6].

Hydatid cysts of the breast are extremely rare even in endemic areas, accounting for only 0.27% of all cases [7]. Very few cases of hydatid cysts of the breast have been reported in the literature and the largest series of 20 hydatid cyst of the breast was reported in Tunisia [8]. The breast can be a primary site of infection or part of a disseminated hydatidosis [7]. Hydatid cysts of the breast usually occur primarily by hematogenous spread but there is the possibility of retrograde passage of the *E. granulosus* egg through lactating ducts during breast feeding.

Clinically, a hydatid cyst of breast usually present with a painless, slowly increasing lump in the breast, of long duration without axillary

lymphadenopathy. It affects generally women in the age group of 30-50 years [6].

Paraclinically, mammography and ultrasound may be helpful but not conclusive. Mammography may show a circumscribed mass lesion with ring-shaped structures inside the mass [9]. When secondary infection occurs, the hydatid cyst cannot be distinguished from breast abscess by mammography [10]. The ultrasound findings vary: multiple daughter cysts separated by a fluid matrix that contains a mixture of membranes of broken daughter vesicles, scolices, and hydatid sand with mixed echogenicity may give rise to a “wheel-spoke” pattern. Separation of the ruptured endocyst layer from the ectocyst leads to a free floating membrane which produces the so-called water lily sign [1,10,11]. MRI findings can be helpful but not specific. The findings of cystic lesion with capsular enhancement are suggestive of hydatid cyst. The capsular enhancement is more typical with secondary infection. Sonography and MRI have an important diagnostic role with giving additional information about internal structure of hydatid cyst rather than CT and mammography [1].

Serological investigations – indirect hemagglutination test, may be used for diagnosis and in the follow-up of patient [6].

Preoperative diagnosis can be made by fine needle aspiration cytology (scoliosis, hooklets or laminated membrane can be identified), but the use of fine needle aspiration is controversial. There are only a few studies describing this method without complications [5,12], but puncturing of the cyst may lead to an anaphylactic reaction and secondary cyst development due to spillage of hydatid fluid [13]. We have not performed fine needle aspiration preoperatively.

The treatment of the breast hydatid cyst is complete surgical excision of cyst avoiding release of the cyst contents, and maximum conservation of the affected viscera [8]. Accidental implantation may be prevented by irrigation of the cyst bed with a 3% saline solution [14]. Preoperative and postoperative chemotherapy with albendazole may reduce the recurrence of disease [6,8]. The recurrence rate due to incomplete removal or unidentified cyst has is between 2% and 25% [15].

The most of the reported cases have been diagnosed postoperatively as it is not easy to reach a definitive diagnosis only by clinical examination and radiological investigations [16].

The particularity of our case is the rare localization of the hydatid cyst, at the level of the breast, in a country which is not part of the endemic area. In our case, hydatid disease was not suspected and clinical diagnosis of breast neoplasm was made. Mammography and mammary ultrasonography suspicioned the presence of a cystic tumor. The possibility of a mammary hydatid cyst was raised only intraoperatively.

Conclusions

Although the mammary hydatid cyst is rarely found, it can be taken into consideration as a differential diagnosis in patients with mammary tumors. Clinical presentation of a patient with palpable and painless lump in the breast makes it challenging to differentiate it from other lesions of breast especially in nonendemic areas: simple cystic nodule, fibroadenosis, chronic abscess or breast cancer. The paraclinical examinations can establish the diagnosis, but in case of unusual sites of development of the hydatid cyst, they can only be suspicioned. Therefore, it is the responsibility of the surgeon to diagnose and treat the patient.

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