



Breast hydatid cyst mimicking fibroadenoma and malignancy: A case report

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Echinococcus granulosus is known as the cause of hydatid cyst disease. It is often seen in many regions of the world, and can cause serious health problems. This parasite can invade tissues in all parts of the body and produce hydatid cysts, although it has been mainly observed in the liver and the lungs. Breast hydatid cysts are encountered rarely. After physical examination, radiological and serological tests are performed on patients with breast hydatid disease. These examinations are helpful for an early diagnosis, but they are insufficient to make a definitive diagnosis, which can only be made according to the results of histopathological examinations. We had a primary diagnosis of either fibroadenoma or malignancy in the breast during the preoperative period of the present case. A precise diagnosis could only be made by histopathological examinations in the postoperative period.

Key Words: Hydatid cyst, breast masses, breast hydatid cyst

INTRODUCTION

Hydatid cyst disease is seen endemically in rural areas. *Echinococcus granulosus* and *Echinococcus multilocularis* (*Echinococcus alveolaris*) cause hydatid cyst disease. Hydatid cysts are observed in humans engaged in agriculture, and can lead to serious medical and surgical problems. It is still commonly encountered in the Far East, South America, Middle East, Eastern Europe, Australia and New Zealand.

Although most often located in the liver and the lungs, these parasites can also be found in other tissues of the body. The incidence of the disease is 70% in the liver, 20% in the lungs and 10% in the other organs. The brain, heart, spleen, breast, pancreas, muscles, submandibular glands, thyroid gland, pleura, chest wall, kidney, peritoneal cavity, inguinal canal and bones are rarely involved. Hydatid cysts in the breast comprise 0.27% of all cases of hydatid disease (1). Breast hydatid cysts are rare, even in endemic regions (2).

The patient usually presents at the hospital with a painless mass in the breast. It is difficult to distinguish a breast hydatid cyst from a tumoral mass by physical examination. In addition, radiological examination and serological tests are not sufficient by themselves to definitively diagnose the cause of the cyst. A definitive diagnosis can only be made after histopathological examination. In this study, a case of a hydatid cyst in the breast is presented. The diagnosis was missed during the preoperative and intraoperative period; the disease could only be diagnosed in the postoperative period by histopathological examination.

CASE PRESENTATION

Our patient was a 34-year-old woman, residing in a rural area and occupied in agriculture. She noticed a painless mass in her left breast a month before she presented at the general surgery clinic with this complaint. She did not have breast pain, breast discharge, breast trauma or a family history of breast cancer. She was multiparous and she breast-fed all of her children.

Upon inspection of the breast, a mass was found in the inner middle area of the left breast, but there was no redness, thickening or retraction of the breast skin or nipple. The nipples were normal in appearance. By palpation of the breast, in the inner middle area of the left breast, a mobile, painless mass of moderate hardness was detected; it had regular borders and was approximately 4x3 cm in size. There was no lymphadenomegaly of the axillary, supraclavicular or cervical lymph nodes.

The patient underwent breast ultrasonography, which indicated a mass of approximately 38x25 mm, as a well-circumscribed and heterogeneous solid lesion in the left breast (Figure 1). The radiologist in-

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terpreted the mass as either a fibroadenoma or a malignant lesion. Excisional biopsy was recommended by the radiologist for a definitive diagnosis. Other radiological examinations and serological tests were not performed in the diagnostic process of the breast mass. In addition, fine needle aspiration (FNA) cytology and tru-cut biopsy were not employed. It was decided to perform excisional biopsy for a definitive diagnosis and cure.

The patient was prepared for the operation. Routine blood tests were conducted, and were found to be normal. The patient, who was pre-diagnosed as either fibroadenoma or malignancy, was operated on under local anesthesia. The mass was totally excised. On the macroscopic view, the mass was covered with a fibrous capsule, and filled with a grayish material which was taken to be membrane debris when the capsule was opened (Figure 2).

The material was sent to the pathology department for a definitive diagnosis. The mass was diagnosed as a hydatid cyst. There were scolices and a germinative layer found on the membranous cuticles in the histopathological examination (Figure 3).

No complications were observed in either the perioperative or postoperative period. Chest X-ray, bilateral mammography, abdominal ultrasonography and thoraco-abdominal computerized tomography were conducted after the diagnosis. Hyda-

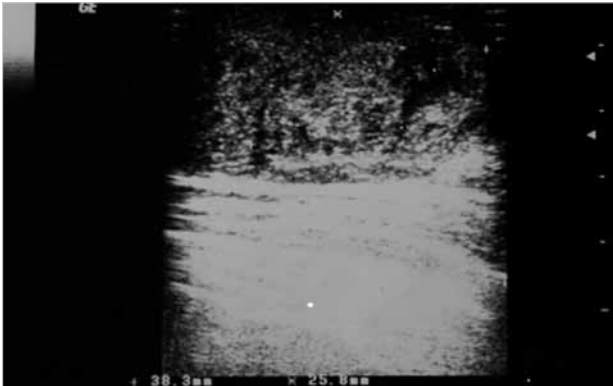


Figure 1. The hydatid cyst was observed as well-circumscribed and heterogeneous solid lesion by ultrasonography



Figure 2. The macroscopic evaluation showed a mass covered with a fibrous capsule and filled with a grayish material thought to be membrane debris

tid cysts were not encountered in other locations. The patient was treated with albendazole 200 mg three times daily for three months. No recurrence was observed in the patient in the follow-up period of three years.

DISCUSSION

Hydatid cysts, which are generally located in the liver and the lungs, are extremely rare in the breast. Moreover, these cysts are rarely observed in the breast even in endemic areas. Breast hydatid cysts comprise 0.3% of all locations and 2% of atypical locations (3). Breast hydatid cysts are usually observed in women, with a wide age range, but they occur mainly in the third to fifth decades of life (4, 5).

Hydatid cyst disease should be considered in the differential diagnosis of all cystic masses in all anatomic locations, especially when they occur in areas where the disease is endemic. This patient resided in a rural area and had noticed a painless mass in the left breast a month before admission to the hospital.

After the physical examination, breast ultrasonography, mammography and magnetic resonance imaging can be performed. In the present case, breast ultrasonography was employed. A solid and heterogeneous mass was detected in the left breast. However, breast ultrasonography alone is insufficient for a definitive diagnosis. Following the radiological examination, the mass was diagnosed as fibroadenoma or malignancy. It was decided to operate on the patient with a diagnosis of fibroadenoma or malignancy without further assessment of the patient. Perez et al. (6) reported that breast hydatid cysts are seen as heterogeneous solid masses by ultrasonography. Simple cysts, fibroadenomas, phyllodes tumors and rarely well-circumscribed carcinomas must be considered in the differential diagnosis of hydatid cysts (7). Hydatid cysts in the breast should also be considered in the differential diagnosis of malignant breast masses. In other studies on cases of breast hydatid cysts, it was reported that this lesion mimicked inflammatory breast carcinoma, mastitis and fibroadenoma (8, 9).

For the diagnosis of hydatid cysts, the indirect hemagglutination assay (IHA), enzyme linked immuno-sorbent assay (ELISA)

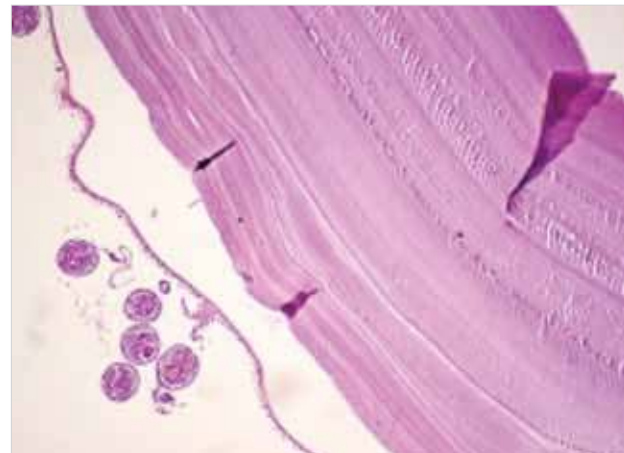


Figure 3. The microscopic evaluation showed a germinative layer and scolices on membranous cuticles (H&E, 20x)

serological tests and fine needle aspiration (FNA) cytology can also be employed. These tests and cytologic examinations were not conducted in the present case. Mirdha and coworkers reported that FNA cytology is a useful method for the differential diagnosis of hydatid cysts; moreover, they reported that they did not observe any complications after using this method (10). In another study, it was reported that FNA cytology can be helpful in the early diagnosis of hydatid cysts in the breast, but it may lead to an anaphylactic reaction and spillage in suspected lesions (11).

The patient presented here was not diagnosed with a hydatid cyst, either in the preoperative or in the perioperative period. A definitive diagnosis was made in the postoperative period by histopathological examination.

The cyst must be completely removed for the cure of breast hydatid disease. However, cyst recurrences are seen in 10% of patients. Albendazole may decrease the recurrence of the cyst (4). It is suggested that patients are given albendazole in the preoperative and postoperative period. In the present case, the patient was only medicated with albendazole after the operation.

CONCLUSION

Breast masses that resemble fibroadenoma or malignancy in people who are occupied in agriculture and live in endemic areas should be assessed for the presence of hydatid cysts.

Conflict of Interest: No conflict of interest was declared by the authors.

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Informed Consent: Written informed consent was obtained from patients who participated in this case.

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