

## Case Report

# Breast Cyst Hydatid: A Case Report

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**Abstract**

Hydatid disease (HD) can arise in any part of the body. Breast involvement with HD is extremely rare; it can be isolated or secondary to disseminated hydatidosis. In this study, we present a 45-year-old female with HD located in the right breast without pulmonary or hepatic involvement. Ultrasonography revealed a multiloculated cystic mass; mammography showed a homogeneous, dense, well-circumscribed lesion and magnetic resonance image showed a peripheral rim enhanced cystic mass with internal septa located in the upper outer quadrant of the breast. Pre-operative cyst hydatid IgG (1/100) was positive. So the preliminary diagnosis of HD was made and it was completely removed surgically. The preliminary diagnosis was confirmed on histopathological examination of the specimen. HD should be kept in mind in the differential diagnosis of breast cysts. Performance of preoperative cytological examination is not necessary for all patients. Complete excision should be the first-line option for breast HD.

**Keywords**

- Hydatid disease
- Ultrasonography
- Hydatid cyst

**INTRODUCTION**

Hydatid disease (HD) is an endemic disease that particularly affects people living in rural areas in close contact with cattle, however, due to immigration and travel, their presence in non-endemic areas is possible. The hydatid cyst is Hydatid cysts can be seen any part of the body. Breast involvement occurs in 0.27% of all HDs [1]. Breast HD may be isolated, or it may be a part of disseminated hydatidosis. The diagnosis is often delayed because there are no specific signs and mimic other diseases; usually it is not included in the differential diagnosis of mammary tumors because of their rarity, even in endemic areas and is a challenge to differentiate; differential diagnosis based on mammography includes cyst, fibroadenoma, phylloides tumor and, rarely, carcinoma circumscribed. Routine breast imaging modalities can be used in the diagnosis of breast HD. Serologic tests for HD can be useful in cases suspected for HD [2]. Algorithm of breast HD management is based on the treatment for liver HD. Preoperative diagnosis can be made with clinical data, image and findings in FNA acute; although few reports published in most reported cases have been diagnosed after surgical removal. The aim of this case report is to discuss the necessity of cytological evaluation of cyst content and range of available surgical procedures.

**CASE PRESENTATION**

A 45-year old lady was admitted to our clinic with a four-month history of a breast lump. She had no history of any systemic disease or surgery. Her physical examination revealed nothing but a 2 cm mass in the middle upper part of the right

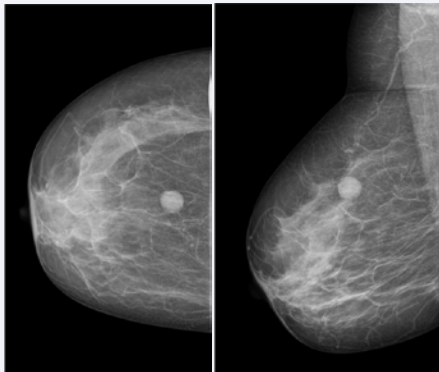
breast. Mediolateral oblique and craniocaudal mammograms showed a homogeneous dense well-circumscribed lesion in the right breast (Figure 1a,b). Ultrasonography (US) revealed a multiloculated cystic mass with a diameter of 18x15 mm located at the 12 o'clock position in the right breast (Figure 2). This lesion was hyperintense on T2-weighted and hypointense on T1-weighted magnetic resonance imaging (MRI). Contrast-enhanced sequences on MRI showed a peripheral rim enhanced cystic mass with internal septae (Figure 3a,b). Routine blood tests were all within the normal limits. Pre-operative cyst hydatid IgG was 1/100. Abdominal tomography and chest x-ray was also normal. Albendazole was used preoperatively at a dose of 10mg/kg/day for a 3-month course. The cyst was carefully freed from surrounding breast tissues and completely removed, including a margin of normal breast tissue. On sectioning, preliminary diagnosis of hydatid cyst was confirmed since there were fluid-filled cysts and a laminated membrane which are typical for HD (Figure 4a,b). The histologic examination supported our diagnosis of HD. The patient was discharged without complications. No late complications or recurrence were observed at the follow-up one year later.

**DISCUSSION**

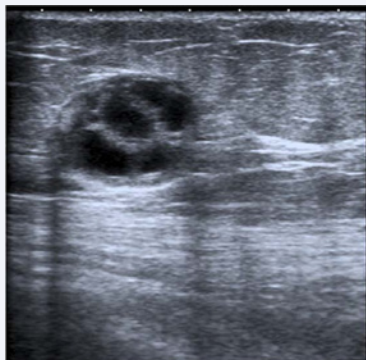
Humans can be infected by means of contaminated dogs or contaminated vegetables. They acquire the infection by ingesting the eggs. After oral ingestion, the oncosphere penetrates the intestinal wall then joins the portal system and reaches the liver. Most of the embryos are trapped in the liver, but some pass through and are transported to other organs. They can develop in

almost all organs of the body but infrequently form in the breast [3].

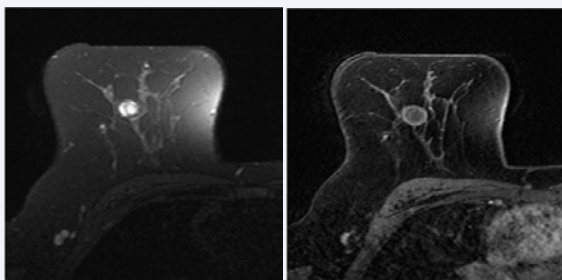
Clinical presentation varies in relation to especially localization, size and stage of the cyst. Hydatid cysts can mimic every type of cyst since they can be seen as simple or complex cysts, depending on the stage of the cyst [4]. The preliminary diagnosis is very important in terms of forming a surgical plan and preventing the spillage of daughter cysts during surgery.



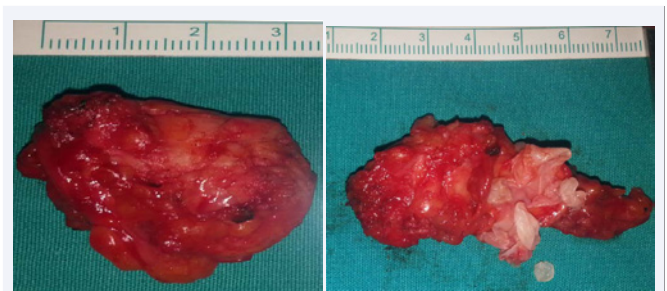
**Figure 1** a,b: Craniocaudal and mediolateral oblique mammograms reveal a homogeneous, dense, well-circumscribed lesion in the right breast.



**Figure 2** Ultrasonography shows a multiloculated cystic mass in the right breast.



**Figure 3** a,b: T2-weighted image on magnetic resonance imaging shows a well-circumscribed, hyperintense lesion. 3b. Contrast-enhanced magnetic resonance imaging shows a thin rim enhanced cystic mass with internal septae.



**Figure 4** a,b: Completely excised cyst. 4b. The appearance of fluid-filled cysts and a laminated membrane.

Despite the characteristic imaging findings, atypical localizations can cause serious problems in the differential diagnosis even in endemic regions [5]. Fortunately, in the present case, the patient was diagnosed as hydatid disease easily due to the radiological findings. Yagham et al [1] offered Fine-needle aspiration cytology for pre-operative diagnosis. Onder et al [2] has not agreed with Yagham's idea since aspiration procedure may cause secondary cyst development and anaphylactic reaction. We think that cytological investigation is not necessarily required for all patients. Fine-needle aspiration cytology can be performed when there is difficulty in diagnosis.

Mammography, US and MRI can be used for diagnosis of hydatid disease. Mammography shows a nonspecific well-circumscribed dense lesion. But US reveals pure fluid collection, fluid collection with a split wall and fluid collection with septa according to the types of hydatid disease. MRI findings are nonspecific. Cystic lesions are hyperintense on T2 images and hypointense on T1-weighted images. On contrast enhanced MRI, a cystic lesion with peripheral rim enhancement is seen [6].

There are a variety of methods for treatment. Appropriate surgical treatment of hydatid cysts depends on the location. For example, in our previous studies we offered partial resection for mesorectal HD [7], and total resection for small diaphragmatic HD [5]. Breast HD can be detected at diameters smaller than HD of other body parts since most women are sensitive to breast masses, and there are screening programs in many countries. We recommend complete excision especially for small breast hydatid cysts if there is no cosmetic and medical contraindication.

When a cyst is detected on an imaging modality, HD should be taken into consideration in countries where HD is endemic. Imaging modalities and serologic tests are sufficient for the diagnosis of breast HD. Total removal of breast hydatid cysts should be the surgical goal if there is no contraindication. Cytological investigation should not be viewed as an absolute indication.

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