



# Mammary Hydatid Cyst as an Unusual Cause of a Breast Lump: A Case Report

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## ABSTRACT

Hydatid cyst disease is caused by the larval stages of *Echinococcus granulosus*, where hydatid cysts predominantly affect the liver and lungs but are very rarely encountered in the breasts. This report is the first to present an unusual mammary hydatid cyst in the left breast of a 45-year-old woman from Yemen. The patient complained of a painless mass in the left breast for one year. Imaging revealed a mobile lesion with smooth margins. After the removal of the whole mass, diagnosis of the hydatid cysts was confirmed by histopathology. The patient was treated with albendazole for a month, and no recurrence was observed during follow-up visits. Therefore, this type of cysts should be considered by radiologists and surgeons in the differential diagnosis of breast lumps in areas endemic for the disease.

**Keywords:** Hydatid cyst, Breast, Yemen

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## 1. Case Presentation

A 45-year-old woman presented to Kuwait University Hospital of Sana'a University with a lump in the upper outer quadrant of the left breast for one year. She showed no risk factors for breast cancer or other complaints. She was living in a rural area, and her occupation was associated with livestock rearing. Physical examination revealed a firm, mobile mass, measuring 5.5 cm in diameter and with smooth borders. However, she had no axillary lymphadenopathy. Other physical examination findings were normal. Ultrasonography of the breast revealed a cystic lesion in the upper outer quadrant of the left breast, measuring 5×4cm, being divided by thin septa and primarily mimicking a semisolid tumor in character. A clinical decision was then made to excise the lump surgically. Surgery revealed a mass surrounded by a dense fibrous tissue (Figure 1). Figure (2) shows the completely excised lump. Sectioning of the mass revealed a laminated membrane and the presence of daughter cysts inside it (Figures 3 & 4), which grossly identified it as a hydatid cyst. In addition, the cystic mass contained a yellowish, thick fluid (Figure 1). The wound was irrigated with a sterile saline solution (3%) prior to its closure. Histopathologic examination confirmed the diagnosis of hydatid cyst. Finally, the patient was treated with albendazole for a month. There was no recurrence during follow-up visits.



**Figure 1.** A mass surrounded by a dense fibrous tissue in left breast



**Figure 2.** Complete excision of the cystic structure



**Figure 3.** A hydatid cyst with a laminated membrane by gross examination



**Figure 4.** A hydatid cyst with daughter cysts

## 2. Discussion

Mammary hydatid disease is rare, where only 0.27% of the cysts are localized in the breasts either as a primary site of infection or part of disseminated disease (1). However, primary breast involvement might represent a differential diagnosis of breast lumps in areas endemic for hydatid cyst disease. Clinically, it usually presents as a painless, slowly growing lump (2), mostly affecting women aged between 30 and 50 years old (2, 3). As in the case presented in this report, the diagno-



sis is frequently delayed for what had been considered a benign lump after observing the laminated membrane during surgery or after receiving the pathology report after surgery (4, 5).

Mammary hydatid disease is usually pre-operatively diagnosed using fine-needle aspiration cytology (FNAC), which shows the hooklets or scolices of the parasite or the laminated membrane (2, 6). Vega et al. (2) were the first to report the characteristic ring-shaped structures inside a hydatid cyst of the breast in an accidentally performed over-penetrated view, attributing this to a difference in the density between the walls and the contents of the daughter cysts inside fluid-filled hydatid cysts. Such an over-penetrated view is recommended in endemic areas if FNAC and/or breast ultrasonography results are suggestive of hydatid disease.

Clinically, a hydatid cyst in the breast might mimic fibroadenomas, cystic mastopathies, chronic abscesses, phylloides tumors or even carcinomas (7). In addition, mammary hydatid cysts have a sonographic appearance similar to those in other organs, showing a well-defined, lobulated mass of heterogeneous echogenicity that may contain multicystic areas (8, 9). Abdominal ultrasonography and chest radiography are required to exclude liver and lung involvement. In addition, serologic tests may help to confirm the diagnosis. Cystectomy of mammary hydatid cysts is the preferred, curative treatment (4, 5, 9, 10). In the case presented, irrigation of the cyst with a sterile saline solution (3%) was adopted to reduce the possibility of accidental implantation.

### 3. Conclusions

Mammary hydatid disease is rare, and this represents the first case reported from Yemen.

Therefore, this type of cysts should be

considered by radiologists and surgeons in the differential diagnosis of breast lumps in areas endemic for the disease.

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### Competing interests

The author declares that he has no competing interests associated with this article.

### Ethical approval

Publishing this report was approved by the Ethics Committee of the Faculty of Medicine and Health Sciences, Sana'a University. The consent for publication was also obtained from the patient.

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