

[Return to contents page](#)

## HYDATID CYSTS OF THE BREAST : A REPORT OF THREE CASES

**D. Farrokh, MD**

*Department of Radiology, Imam Reza Hospital, Mashhad University of Medical Sciences, Mashhad, Iran*

### • ABSTRACT

Hydatid cyst of the breast is rare and is not usually included in the differential diagnosis of the breast lumps. The radiologic findings of hydatid cyst of the breast is non-specific and the differential diagnosis includes cyst, fibroadenoma, phyllodes tumor and circumscribed carcinoma. We report three patients with surgically proven hydatid cysts of the breast.

**Irn J Med Sci 2000; 25(1&2):72-75**

**Key Words** • Echinococcosis • mammography • sonography

### Introduction

Hydatid disease is caused by the larval form of the *Echinococcus granulosus*. Although most prevalent in sheep-raising countries, hydatid disease has a worldwide distribution. When ingested, the oncospheres, pass through the intestinal mucosa and reach the liver via the portal vein. Roughly, seventy percent of the cysts are detected in the liver, 20% in the lungs and 10% in other organs.<sup>1</sup> Hydatid cyst of the breast is rare and is usually not considered in the differential diagnosis of lesions of the breast.<sup>2</sup>

Mammography and particularly ultrasonography are crucial in reaching the diagnosis.<sup>3</sup> Although rare, several cases have been diagnosed cytologically by the detection of scoleces of *Echinococcus granulosus* manifested with a rosetellum of hooklets.<sup>2</sup> A few reports on the imaging features of hydatid disease of the breast, and the use of cytologic techniques for diagnosis, have been published.

### Case 1

A 36-year old woman presented with multiple nodules in the right breast allegedly present for 10 months. Physical examination showed multiple freely mobile 1-3 cm palpable nodules in the upper half and central portion of the breast. One of the masses in the central part was painful and tender.

Mammogram revealed bilaterally dense breasts and multiple smoothly circumscribed lesions in the right breast, some of which were marginal and ring-shaped (Fig. 1A).

Sonography of the right breast revealed multiple round or ovoid cystic lesions one to 3 cm in diameter (Fig. 1B).

The tender mass in the central portion of the breast revealed echogenic material inside the cyst. Fine needle aspiration of the mass showed hydatid membrane on histopathologic examination, confirming the presence of hydatid cyst. The other cystic lesions were excised, and showed multiple fluid-filled cysts with hydatid membranes on pathologic examination.

Sonogram of the liver showed concomitant multiple liver hydatid cysts, and chest x-ray revealed a rounded mass lesion in the right lung, which proved to be a hydatid cyst.

**Case 2**

A 46-year-old woman presented with a slowly growing, painless mass in the left breast of two years duration. Physical examination revealed a circumscribed, freely mobile 5 cm mass in the central portion of the breast.

Mammogram revealed a well-circumscribed dense lesion without calcification (Fig. 2A). There was also a 1 cm nodule in the lower inner quadrant of the breast. Ultrasonography showed a rounded lesion with internal septation and heterogeneous echogenicity in the central portion of the breast (Fig. 2B). The smaller nodule was solid and proved to be a fibroadenoma. Our diagnosis prior to surgery was a complicated cyst or chronic abscess. The mass was excised, and microscopic examination revealed a cystic lesion containing fluid, internal debris scoleces and detached hydatid membranes. Sonogram of the liver and chest x-ray were normal.

**Case 3**

A 48-year-old woman had a mass in her left breast for a period of 3 years. On palpation there was a firm and tender but freely mobile 4 cm x 5.5 cm mass in the central portion of the breast. No regional lymphadenopathy was detected. Mammography showed a dense well-circumscribed mass without internal or marginal calcification (Fig. 3A). Ultrasonography showed a cystic lesion with lobulated margin and low level internal echos (Fig. 3B). The mass was excised, and pathologic examination showed a fluid-filled cystic lesion with hydatid membranes. Casoni test was positive. Abdominal sonography showed two hydatid cysts in the liver. Chest x-ray was normal.

**Discussion**

The liver and lungs are the organs most frequently affected in *Echinococcus granulosus* infestation.<sup>1</sup>

The breast is a rare location for hydatid cyst, and accounts for 0.27% of all cases.<sup>2,3</sup> Systemic dissemination is the source of breast involvement.<sup>4,5</sup>

Hydatid cyst of the breast is not usually considered in the differential diagnosis of lesions of the breast in non-endemic areas.<sup>4,6</sup> It usually forms a palpable, slow-growing mass without regional lymph node involvement.<sup>2,4</sup> The mass is often painless, and when secondarily infected, the lesion is clinically and mammographically indistinguishable from a breast abscess.<sup>7</sup>

Women, 20-50 years of age, are said to be at higher risk than other age-groups. Mammography usually reveals a circumscribed lump and the differential diagnosis includes cyst, fibroadenoma, phyllodes tumor, and circumscribed carcinoma.<sup>7,8</sup> Mammography may also reveal calcification, which must be differentiated from a calcified cyst or fibroadenoma.<sup>9,10</sup> Septation on mammography is probably due to the differences in the density of the walls and the contents of the daughter cysts inside the fluid-filled mother cyst.<sup>1</sup> In 1993 Vega and Ortega reported this mammographic finding and observed that, the presence of ring-shaped structures inside a circumscribed lesion in a slowly growing breast mass was suggestive of hydatid cyst.<sup>7</sup> The sonographic appearance of the mammary hydatid cyst differs from one patient to another and a variety of sonographic patterns have been previously described. A maturational sequence from simple cyst to multiloculated cystic lesion has been described. The endocyst layer may rupture and become detached from the ectocyst, leading to a free-floating membrane known as the "water lily" appearance. Cysts may become secondarily infected or traumatized, appearing as

*Archive of SID*

echogenically mixed, with heterogenous echos and collapsed internal membrane. As recently described, the fluid level seen in various intact daughter cysts might be due to the presence of hydatid sand which comprises a mixture of infolded membranes, fragmented hooklets, and debris, similar to the classical findings in hydatid lesions of the liver.<sup>3,8</sup> Although sonogram may also show a fluid level with debris in a breast cyst secondary to hemorrhage, the diagnosis of breast hydatidosis should be considered if fluid levels are seen in a multiloculated cystic lesion, particularly when associated with cystic lesions in other organs.<sup>8,11</sup>

The cytologic diagnosis of hydatid disease is established by the identification of scoleces, hooklets or fragments of laminated membrane.<sup>12,13</sup> Diagnostic aspiration of the fluid of hydatid cyst for cytologic examination may be hazardous.<sup>13,14</sup> Leakage from the cyst can lead to secondary cyst formation or a severe anaphylactoid reaction. Therefore, cytologic examination of the aspirated fluid, though invaluable for diagnosis, is not recommended by many authors.

It should always be borne in mind that, although rare, some palpable breast lumps, particularly in sheep-raising countries, may be due to hydatid disease, and mammography combined with ultrasonography are usually helpful in reaching a correct diagnosis.<sup>3,14</sup>

## References

1. Beggs I: The radiology of hydatid disease. *AJR* 1985;**145**:639-48.
2. Epstein NA: Hydatid cyst of the breast. Diagnosis using cytological techniques. *Acta Cytol* 1979;**15**:420-1.
3. Niron EA, Ozer H: Ultrasound appearances of liver hydatid disease. *Br J Radiol* 1987;**54**:335-8.
4. Radhi JM, Thauanathan MY: Hydatid cyst presenting as a breast lump. *Can J Surg* 1990;**33**:29-30.
5. Bland KI: Inflammatory, infectious, and metabolic disorders of the breast. In: KZ Bland ed *Comprehensive Management of Benign and Malignant Diseases*. Philadelphia: WB Saunders, 1991:87-109.
6. Kazi JI, Khan A, Raza Rehman: Hydatid cyst of breast. A rarity. *J PMA J Pak Med Assoc* 1987;**37**:330.
7. Vega A, Ortega E, et al: Hydatid cyst of the breast: Mammographic findings. *AJR* 1994;**162**:225-6.
8. Schechner C, Schechner Z, Horowitz Y: Echinococcus cyst of the breast imitating carcinoma. *Harefuah* 1992;**122**:503-51.
9. Mirza NB, Pampa HO: Hydatid cyst of the breast: case report. *East Afr Med J* 1979;**56**:235-6.
10. Thurairatnam TP: Echinococcosis breast abscess. *Trop Doct* 1992;**22**:192.
11. Makki H: Some rare cases of hydatid disease. *Br J Clin Pract* 1980;**24**:125-9.
12. Goris A, Campatelli A, Luchi S, paladini A: Cytology in the percutaneous treatment of hydatid cysts: A report of four cases. *Acta Cytol* 1993;**37**:423-6
13. Jacobson EA: A case of secondary echinococcosis diagnosed by cytologic examination of pleural fluid and needle biopsy of pleura. *Acta Cytol* 1973;**17**:76-9.
14. Sagin H, Kiroglu Y, Aksoy F: Hydatid cyst of the breast diagnosed by fine needle aspiration biopsy. A case report. *Acta Cytol* 1994;**38**:956-67

---

[Return to contents page](#)