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## A rare case of isolated hydatid cyst of breast

Amit kumar\*,<sup>1</sup>, Amar Kumar, Kumar Gaurav, Gautam Chandra, A.K. Tiwary, S. Bhagat, M. Sarawgi

Department of Surgery, Rajendra Institute of Medical Sciences, Ranchi, India

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## ABSTRACT

**INTRODUCTION:** Hydatid cyst of the breast is very rare. It is challenging to differentiate it from other tumoral lesions of the breast. Only few reports of breast hydatid cyst are published and majority of the reported cases have been diagnosed postoperatively as it is not possible to reach definitive diagnosis with clinical examination and radiological investigations only.

**PRESENTATION OF CASE:** A 31-year old woman presented with a painless lump in the right breast since one year duration. On clinical examination, a non-mobile, firm lump was detected in the right breast associated with nipple retraction, but there was no axillary lymphadenopathy. This case was diagnosed as hydatid cyst incidentally during surgery from its gross appearance which mimics that of a liver hydatid cyst, normally common in this endemic area.

**DISCUSSION:** Hydatid disease is a parasitic infection caused by the larval form of *Echinococcus granulosus* and seen endemically among sheep-raising communities. The breast can be a primary site or part of a disseminated hydatidosis. It might mimic fibroadenoma, phyllodes tumors, chronic abscesses, or even carcinoma. Preoperative diagnosis can be made by fine needle aspiration cytology. It also can be diagnosed by radiological or serologic means but neither of them is definitive. Surgery is the treatment of choice.

**CONCLUSION:** Hydatid cyst of the breast is very uncommon but it should be included in differential diagnosis of breast lumps for patients living in endemic areas.

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## 1. Introduction

Hydatid disease is a parasitic infection caused by the larval form of *Echinococcus granulosus* and seen endemically among sheep-raising communities. This disease is widespread and occurs in all continents, including circumpolar, temperate, subtropical, and tropical zones. Human cystic echinococcosis remains highly endemic in pastoral communities, particularly in regions of South America (Argentina, Uruguay, Chile), the Mediterranean littoral (Spain, France, Italy), Eastern Europe, the near and Middle East (Turkey), East Africa (Maghreb countries), Central Asia, China, and Russia.<sup>1</sup> Very few cases of hydatid cysts of the breast have been reported in the literature. The largest series of 20 hydatid cyst of the breast was reported in Tunisia.<sup>2</sup> Patients usually present to the hospital with a palpable and painless lump in the breast. It is challenging to differentiate it from other tumoral lesions of the breast. Only few reports are published and majority of the reported cases have been diagnosed postoperatively. Very few of the reported

cases have been diagnosed preoperatively.<sup>3</sup> It is not possible to reach definitive diagnosis with only radiological investigations.

## 2. Presentation of case

A 31-year-old woman presented with gradually progressive, painless lump in the right breast since one year duration. There was no history of injury, discharge from the nipple and family history of breast cancer. She was a housewife. She did not give history of close contact with any animal. Examination revealed a non-mobile, firm lump measuring 5 cm × 5 cm in the subareolar region of the right breast predominantly in the upper quadrants. The nipple of the right breast was retracted. The left breast and nipple were normal and there was no axillary or cervical lymphadenopathy. The mammogram revealed a large, smooth walled, well defined opacity in the right subareolar region (Fig. 1). Left breast was normal. Collaborative USG study of the breasts revealed a thick walled cystic lesion with floating membranes and internal echoes in the subareolar region of the right breast. The chest X-ray and USG abdomen of the patient were normal.

The patient underwent surgery for the removal of the right breast lump. Through a curvilinear incision just above the areolar margin, the cyst was removed in-toto (Figs. 2 and 3). The excised cyst was oval in shape and measured 5 cm × 4.5 cm × 3 cm. When

\* Corresponding author at: Room No. 74, Hostel No. 4, R.I.M.S., Ranchi 834009, Jharkhand, India. Tel.: +91 9122083221.

E-mail address: [amitpat23@yahoo.in](mailto:amitpat23@yahoo.in) (A. kumar).

<sup>1</sup> Present address: Indu Kutir, Baudh Vihar Colony, Bhootnath Road, Patna 800020, Bihar, India.

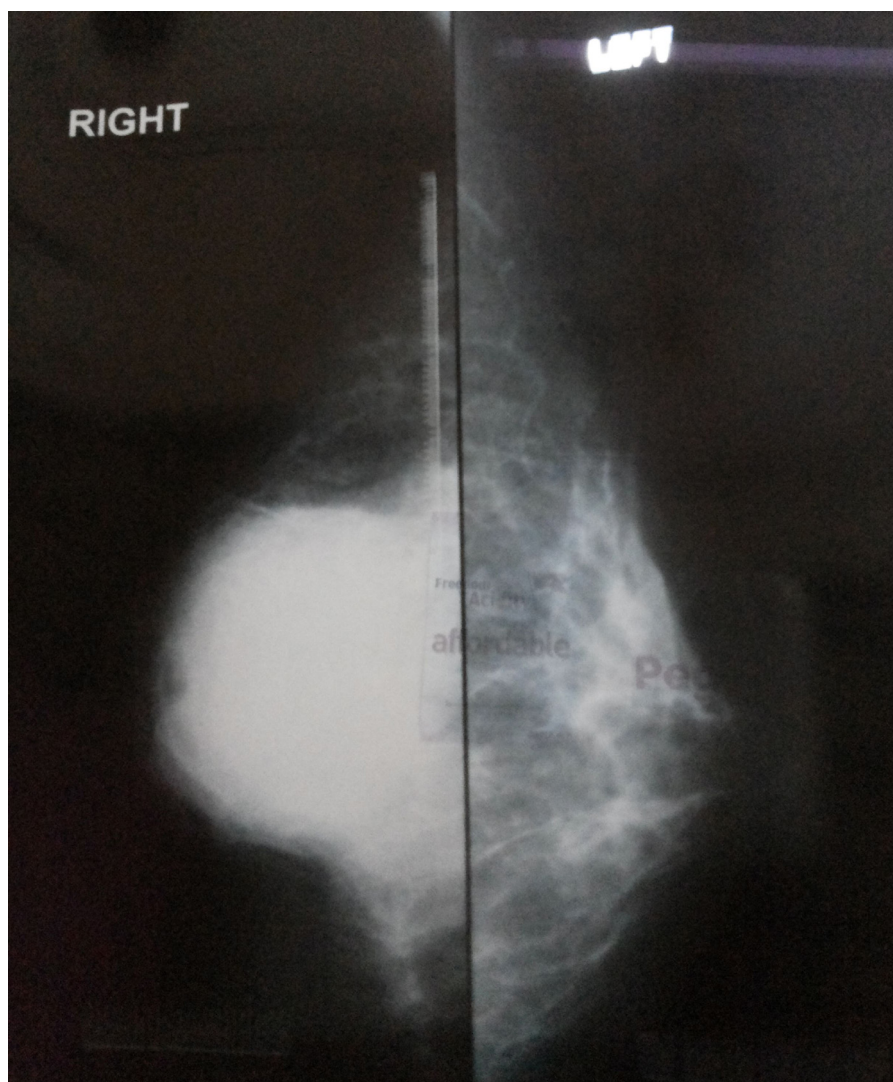


Fig. 1. Mammogram showing a large, smooth walled, well defined opacity in right breast.

the cyst was opened, endocysts were found confirming it to be a hydatid cyst (Fig. 4).

### 3. Discussion

Hydatid disease is a cyclozoonosis caused by the larval (metacestode) stages of cestodes (flat worms) belonging to the genus *Echinococcus* and the family Taeniidae. The disease exists in two forms: the larval stage (metacestode) and the adult stage (tenia). The parasites are perpetuated in life cycles with carnivores (dogs and wild canine) as definitive hosts. Humans are the accidental intermediate host (dead end) and animals (herbivores and omnivores) are both intermediate and definitive hosts.<sup>1</sup> The adult *E. granulosus* is a worm, when infected it produces eggs that are passed in stool. Eggs ingested by intermediate hosts like cows, sheep, and humans, liberate an embryo in the duodenum, which penetrates intestinal mucosa and enters the portal circulation.<sup>4,5</sup> The liver acts as a first filter and stops about 75%, while lungs, the second filter, stop about 10% and only 15% embryos are free to develop cysts in other organs of the body.<sup>6</sup> According to Barret and Thomas, 60% of the cysts are found in the liver, 30% in lungs, 2.5% in kidneys, 2.5% in heart and pericardium, 2% in bone, 1.5% in spleen, 1% in muscle, and 0.5% in brain.<sup>6,7</sup> The embryo usually

develops into a unilocular cyst.<sup>8</sup> Hydatid disease of breast is rare and accounts for only 0.27% of all cases. The breast can be a primary site or part of a disseminated hydatidosis.<sup>9,14</sup> Typically, the patient presents with painless breast lump, which increases slowly in size without regional lymph node involvement. It generally affects women between 30 and 50 years of age. It might mimic fibroadenoma, phyllodes tumors, chronic abscesses, or even carcinoma. So breast hydatid cyst should be included in differential diagnosis of breast lumps especially in endemic areas.<sup>6,9,14</sup> Preoperative diagnosis can be made by fine needle aspiration cytology where scoleces, hooklets or laminated membrane can be identified.<sup>10</sup> It is a safe procedure, as no complications were mentioned in the literature.<sup>6,11,14</sup> The disease can be diagnosed by radiologic or serologic means, both of which are not definitive.<sup>11</sup> Mammogram may show a circumscribed mass, the characteristic ring shaped structures inside the mass in over penetrated view strongly suggests breast hydatid cyst.<sup>12</sup> The ultrasound and Magnetic Resonance Imaging are helpful diagnostic tools.<sup>6,13</sup> Hemagglutination tests may be helpful in diagnosis.<sup>15</sup>

The treatment of a hydatid cyst of the breast is complete excision. However, recurrent cysts have been reported postoperatively in 10% of patients. Albendazole may decrease the recurrence rate of hydatid cyst disease.<sup>2</sup>

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