



## Cysticercosis of Breast: A Rare Finding

Authors

**Dr Nisha Attri<sup>1</sup>, Dr Suman Kumari<sup>2</sup>**

<sup>1</sup>Assistant Professor, Pathology, JNU Medical College and Hospital

<sup>2</sup>Senior Resident, Pathology, JNU Medical College and Hospital

### Abstract

*Human cysticercosis is a parasitic infestation which is caused by the larvae of pork tape worm, Taenia solium. They can affect any part of the body, the most common sites being the skeletal muscle, subcutaneous tissue, brain, eye in the decreasing order of frequency. Breast is an uncommon site, with only a few cases being reported in the literature. In spite of the rarity of cysticercosis of breast, it should be considered as a differential diagnosis in cases of breast lump, especially in the areas of greater prevalence. Here, we describe a case of 24 years old female who presented with a lump in her left breast.*

**Keywords:** Breast, Cysticercosis, Parasitic infestation, Taenia solium.

### Introduction

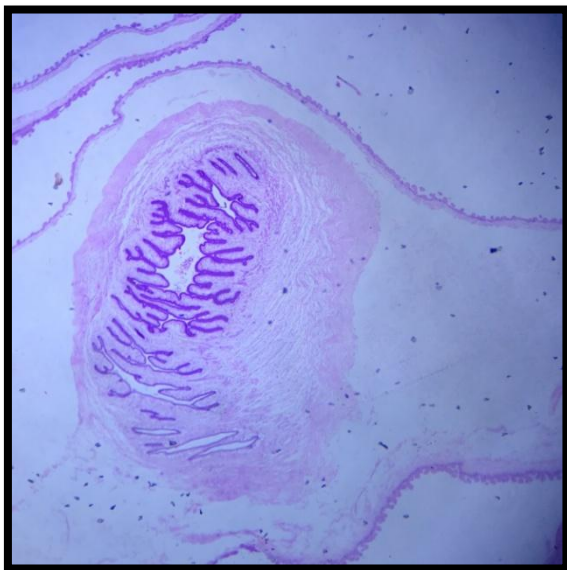
Human cysticercosis is a parasitic infection caused by cysticercus cellulosae, the larval form of pork tapeworm, Taenia solium. It is present world-wide but is prevalent in Mexico, Africa, South-East Asia, Eastern Europe, and South America.<sup>1,2</sup> In the developing countries, it is a major public health problem, where open air defecation and food contamination are common. The common sites of occurrence of cysticercosis are the brain, cerebrospinal fluid, skeletal muscle, the subcutaneous tissues, and the eye; in the decreasing order of frequency. Breast is an uncommon site for cysticercosis, with only a few cases having been reported in the literature.<sup>3</sup> This report illustrates one such case from western India, where a young woman presented with a breast lump.

### Case Report

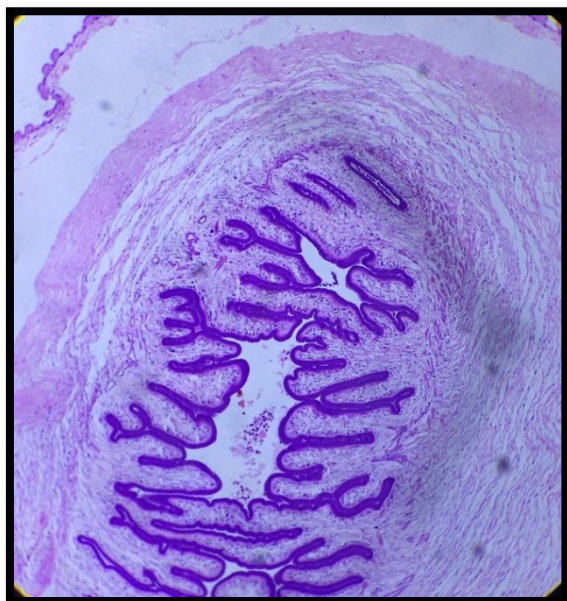
A 24 years old woman came to the hospital with chief complains of a lump in the left breast for the past 4 months associated with intermittent pain. She gave no history of fever or nipple discharge. Examination revealed a firm, non tender mobile lump in the left breast in the lower inner quadrant. There was no axillary lymphadenopathy. A clinical differential diagnosis of fibroadenoma or fibrocystic disease was made. Ultrasonography showed a well-defined round cystic structure of approximate size 1 x 1 cm in lower inner quadrant of left breast which was suggestive of cystic lesion.

Patient underwent surgical excision of the breast lump, which was then examined histologically. On gross examination, it was a grey white, nodular swelling which measured 1 x 1 cm. The external surface was smooth and glistening. The cut section showed a cyst with clear serous fluid. On microscopy sections showed a cyst containing

the typical cysticercus cellulosa larva with deep notches in the body wall [Fig1 & 2]. The cyst was composed of three layers: outer cuticular layer, middle cellular layer and inner fibrillary layer forming a racemose pattern.



**Figure 1-** Section showing a cyst containing a cysticercus larva with deep notches in the body wall (H & E X 100)



**Figure 2-** Section showing cyst composed of three layers: outer cuticular layer, middle cellular layer and inner fibrillary layer forming racemose pattern.(H& E X 400)

### Discussion

Cysticercosis is caused by the larval stage of tapeworm, *T. solium*. It is a major public health problem in the developing countries, where open-

air defecation and lack of hygiene are unchecked. Human cysticercosis, is the consequence of ingestion of eggs of *T. solium*, which are present in contaminated food, water, unwashed hands, and are carried by means of autoinoculation which results from reverse peristalsis. The common sites of cysticercosis are skeletal muscle, subcutaneous tissue, breast, brain, and eye in the decreasing order of frequency.<sup>4</sup> Breast is an unusual site for cysticercosis to form and only a few cases have been reported in the literature so far.<sup>5</sup> Amatya and Kimula from Nepal reported out of 23,402 biopsy, 62 cases of histologically diagnosed cysticercosis, five of which were found in the breast.<sup>6</sup> In this case, an initial diagnosis of fibroadenoma of the breast was made, due to its typical feature of a painless, firm and freely mobile mass.<sup>5,6</sup> In India, a review study of 8364 breast aspirates over 15 years (1978-1992) in All India Institute of Medical Sciences, New Delhi, demonstrated only eight cases of cysticercosis in a study done by Sahai et al.<sup>7</sup> Saigal et al.<sup>8</sup> studied 156 cases of cysticercosis occurring over 27 years in the city of Patiala (Punjab, India). They found that the majority of cases (87.82%) were solitary lesions. The most frequent sites of involvement were the upper arm, chest wall, eye, abdominal wall, and neck, followed by tongue, face, and breast. These lesions were located in the subcutaneous tissue or the muscles. Only 5 of these cases were seen in the female breast.

Hence, it may be difficult to diagnose clinically at the unusual sites and can be diagnosed by various investigations such as USG, X-ray, computed tomography scan, and ELISA test. FNAC also plays an important role in diagnosing cysticercosis, but it is limited due to the varying cytomorphological features of cysticercosis. However, confirmation is done only by the histological demonstration of the parasite in surgically removed tissues. Microscopic findings have been well described by Agnihotri et al.<sup>9</sup> in a case of cysticercosis of the breast. They showed that the wall of the cysticercus was lined by three layers. These included a corrugated cuticular layer

with hair-like protrusions in contact with host tissue, a thin middle layer, and a thick inner layer containing a loosely packed network of small canaliculi with infiltration of lymphocytes, plasma cells, and eosinophils. Multinucleate giant cells and foreign body granulomas were seen in the wall of the cyst. Surgical excision of the lesion is the treatment of choice.

### Conclusion

In conclusion, cysticercosis of the breast is rare. However, it should be kept in the differential diagnosis of breast lumps, especially in endemic areas. Clinically, it may mimic a breast tumour. Definitive diagnosis is possible only after the histological examination of the parasite. Hence, the clinician should be aware of this rare but potentially serious breast disease.

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