CASE REPORT

Parasitic infection of the male breast

J Lobaz,¹ R Millican-Slater,² B Rengabashyam,² P Turton³¹Pennine GP Training Scheme, Halifax, UK²St James's University Hospital, Leeds, UK³Leeds General Infirmary, Leeds, UK

Correspondence to

Dr J Lobaz,
jolobaz@hotmail.com

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SUMMARY

Breast lumps are commonly seen in clinical practice, yet deeper exploration of this particular case presented an unusual diagnostic challenge.

BACKGROUND

This case emphasises how in addition to a good history and clinical examination, a broad differential diagnosis is essential to enable the diagnosis of more exotic conditions in low-risk areas such as the UK.

CASE PRESENTATION

A 42-year-old man presented with a 6-month history of a painless lump in the lateral aspect of his right breast. The lump had remained stable in size at about 1 cm during this time. There were no other symptoms and no axillary lymphadenopathy. There was no significant medical history of note except for a hospital admission 1 year previously with a flu-like illness following a trip to visit relatives in Punjab, India. On clinical examination, the patient was found to have a benign feeling smooth lump just lateral to the nipple.

INVESTIGATIONS

Mammography identified a 12 mm well-defined benign appearing mass lateral to the nipple associated with several flecks of calcification elsewhere in the right breast and to a lesser degree in the left breast suggestive of calcified cysts. Targeted ultrasound of the palpable and mammographic abnormality corresponded to a 11 mm complex cyst with a tongue like projection from its non-dependent wall (figure 1). The ipsilateral axillary lymph nodes were normal in appearance. Imaging was considered indeterminate but probably benign. Three representative samples were obtained under ultrasound

Figure 2 H&E-stained section of needle core biopsy showing a cyst wall with a dense chronic inflammatory infiltrate, rich in eosinophils, $\times 50$.

guidance using a 14-gauge Tru-Cut needle following which the cystic component reduced in size to 7 mm.

Histological examination of the biopsies revealed fragments of fibrofatty tissue containing an eosinophil-rich inflammatory infiltrate (figure 2). There were also two fragments of degenerate looking tissue lined on one edge by a dense eosinophilic cuticular layer (figure 3) covered by microvilli (figure 4). The appearance was suggestive of parasitic infection and the diagnosis of a cysticercus (the larval form of the cestode parasite *Taenia solium*) was favoured. This diagnosis was confirmed with serology.

OUTCOME AND FOLLOW-UP

The lesion was surgically excised 2 months after the biopsy and examination revealed a fibrous walled cyst only. No residual parasite was found. There was no evidence of cysticercosis elsewhere in the body.

DISCUSSION

Cysticercosis (infection with the larval form of *T solium*) is a huge public health problem worldwide, being endemic in Latin America, most parts of Asia, Eastern Europe and most of Africa.¹ The cysticerci can affect any part of the body including the brain, spinal column, eyes, skeletal muscle and subcutaneous tissues.² Parasitic infection of the breast is rare. Over the past 20 years, there have been some case reports of cysticercosis affecting the breast^{3–8}; however, these appear to be confined to places where the infection is endemic. To the best of our knowledge, this is the first confirmed case

Figure 1 Ultrasound scan showing a complex cyst containing an immobile tongue-like projection with a bright dot near its tip.

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Figure 3 H&E-stained section of needle core biopsy showing a fragment of degenerate looking tissue lined on one edge by a densely eosinophilic cuticular layer, ×25.

Figure 4 H&E-stained section of needle core biopsy demonstrating the microvilli covering the eosinophilic cuticular layer, ×400.

report of cysticercosis affecting the male breast from a developed country. Similar to the findings in our case, reported histological features of mammary cysticercosis include a three-layered

structure with an outer cuticular layer, a middle cellular layer and an inner fibrillar layer with a dense inflammatory reaction in the surrounding stroma which commonly contains histiocytes and eosinophils.^{6,8} The host manifests an inflammatory reaction once the cyst starts to degenerate, and old cysts in which the parasite has died commonly calcify.²

Learning points

- ▶ Tapeworm infection is a huge public health problem worldwide and may affect all body systems.
- ▶ International borders mean that doctors need to begin to broaden their diagnostic horizons to include diagnoses such as this.

Contributors JL obtained informed consent for the case report after initial history and examination. RM-S is responsible for the histopathological section of the manuscript and for editorial changes. BR is responsible for the radiological section of the manuscript. PT is responsible for the overall care of the patient.

Competing interests None.

Patient consent Obtained.

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