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Case Report

Fibromatosis arising from the pectoralis major muscle mimicking breast cancer

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ABSTRACT

Fibromatoses are soft tissue tumors composed of fibroblasts which commonly appear in the muscular aponeurosis of the abdomen. Mammary fibromatoses occur in only 0.2% of breast neoplasms and have been reported in association with prior breast augmentation and Gardner's syndrome. Multiple imaging modalities have been used to characterize the appearance of breast fibromatosis; however, it remains a tissue diagnosis given the variability both within and across modalities. We present the case of a 25-year-old female with a history of palpable breast mass who was evaluated with ultrasound, diagnostic mammography, MRI, and CT. Ultrasound-guided biopsy revealed fibromatosis, and MRI ultimately revealed that the mass was arising from the pectoralis major muscle and extensively involved the chest wall.

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Introduction

Fibromatoses, also known as desmoid tumors, are rare, benign but locally aggressive soft tissue tumors arising from fibroblasts. They are commonly known to arise from the muscular aponeurosis in the abdomen and have rarely been reported in the chest wall [1]. Mammary fibromatosis occurs in only 0.2% of breast neoplasms; however, it occurs at a higher rate in patients with prior breast augmentation or Gardner's syndrome, an autosomal dominant condition characterized by colonic polyps and extracolonic soft tissue tumors and osteomas [2–4]. While associations with Gardner's syndrome and prior breast surgery are known, this tumor arises primarily de novo [5]. Fibromatoses have a high propensity for recurrence, particularly

in younger women and when the tumor arises from the pectoralis rather than breast tissue [6].

Chest wall and mammary fibromatoses, owing to their suspicious appearance on imaging and presentation as palpable breast masses, may be easily confused for breast carcinoma before a histologic diagnosis has been established [7]. Characteristics of fibromatosis on various imaging modalities—including mammography, ultrasound, and MRI—have been previously reported with significant variability. MRI, however, is particularly useful in evaluation of tumor extent and preoperative planning [6]. This case represents a rare presentation of fibromatosis originating in the pectoralis muscle presenting as a palpable breast mass with clinical and imaging findings suspicious for breast carcinoma.

Declarations of interest: None.

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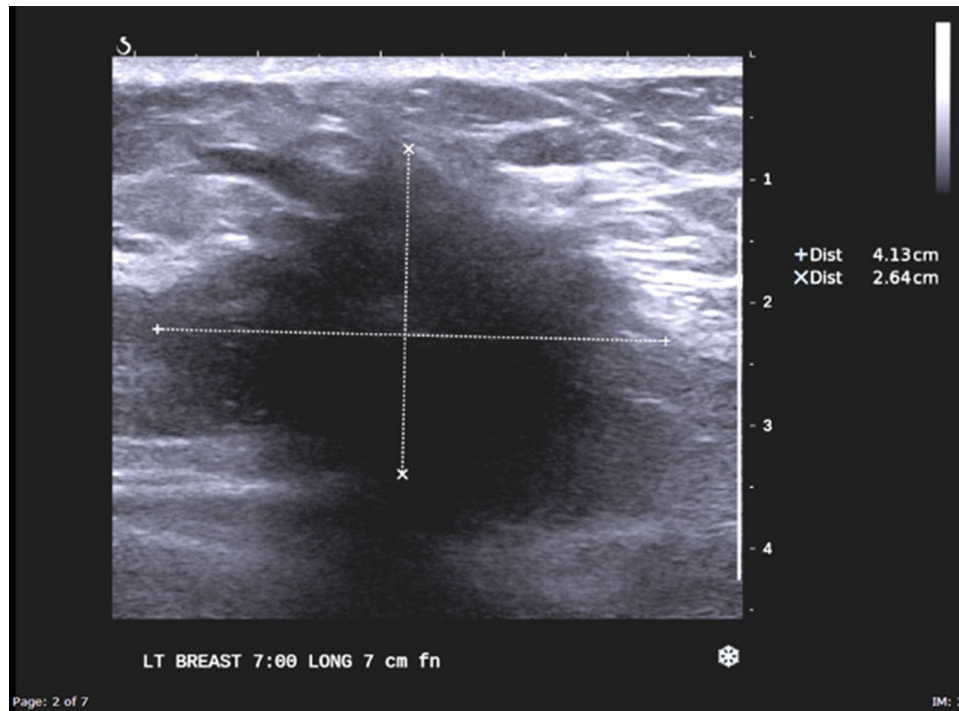


Fig. 1 – Ultrasound – 4.1 x 2.6 cm hypoechoic mass with angular margins in lower inner quadrant of left breast, 7:00 position 7 cm from nipple.

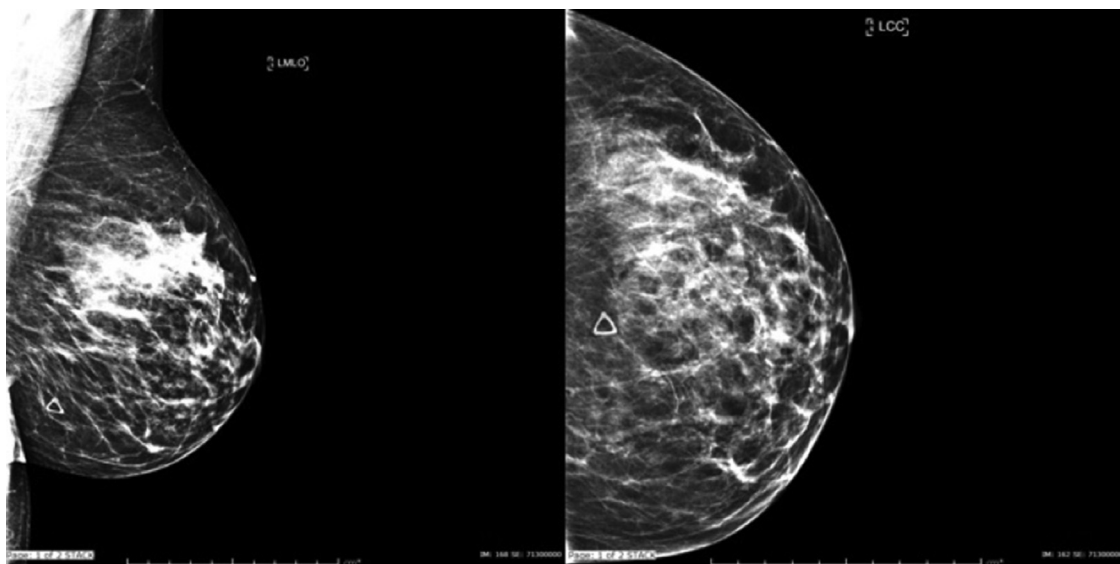


Fig. 2 – Diagnostic mammogram – heterogeneously dense breasts, mass not clearly visualized on standard MLO and CC views; combination CV and LM views were also obtained without clear visualization of the mass.

Case report

A 25-year-old female presented to our institution with several months of indentation in the left inframammary fold and 3 weeks of pain in the same location. Medical history was notable for first menstrual period at age 14, 1 prior pregnancy and full-term birth at 22 years old with subsequent breastfeeding

for a short time. She used oral contraceptives for 5 years prior to Nexplanon placement after the birth of her child. Her only other medication was Tylenol PRN for breast pain. Past surgical history was notable for cholecystectomy, C-section, and wisdom teeth extraction. Family history was significant only for an uncle with hepatitis C and liver cancer and another uncle with diverticulitis. She smoked half a pack of cigarettes daily for 6-8 months prior to presentation with rare alcohol

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