The Sonographic Findings of Mondor’s Disease in the Breast

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Mondor’s disease, superficial thrombophlebitis of the anterolateral chest wall, is a rare cause of breast pain. This disease often presents as a cordlike lesion with tenderness in the lateral breast. It is usually a benign and self-limiting process and only symptomatic control is needed. However, a small proportion of cases (2.4% to 12%) are associated with breast cancer. Breast sonography is a useful tool in the diagnosis of this disease, with the advantages of convenience and good resolution in young Asian females. We present a 24-year-old postpartum woman with a painful cord-like structure in the left lateral breast. This lesion resolved in 2 weeks after conservative treatment. The sonographic features of Mondor's disease in this patient are illustrated and the association with breast cancer is emphasized.

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KEY WORDS: • mondor’s disease • thrombophlebitis • breast sonography

INTRODUCTION

Ultrasound is an important tool for diagnosing lesions in the breast. Because of improvements in resolution and equipment, breast sonography has been widely used to distinguish between benign and malignant lesions, especially in Asian women with dense breasts. Mondor’s disease, superficial thrombophlebitis of the breast, was first described in 1869 by Fagge [1], and its significance was recognized after four cases were reported in 1939 by a French surgeon, Henri Mondor [2]. Mondor’s disease is usually benign and self-limiting, but it is occasionally associated with breast cancer. Hundreds of cases of Mondor’s disease have been reported, but reports discussing the sonographic features of this disease are rare. We report the case of a young woman with Mondor’s disease and discuss the ultrasonographic findings.

CASE REPORT

A 24-year-old woman presented to our breast clinic with a lump in the left breast and breast pain of about 1 week’s duration. She was 5 months’ postpartum and was not breastfeeding her child. She denied a history of trauma, breast surgery, vigorous activity and wearing tight clothing. On physical examination, the patient was afebrile and her vital signs were within normal limits. A shallow groove was found which extended from the upper outer quadrant to the lower outer quadrant of her left breast. A 7 cm, cord-like subcutaneous structure with tenderness was palpable, especially when she raised her left arm. There was no axillary mass. Breast sonography was performed and a tubular hypoechoic lesion, 0.34 cm in diameter, was found in the subcutaneous layer, along the lateral aspect of the left breast (Figs. 1 and 2). The content of...
the tubular structure was homogeneous and its echogenicity was lower than fat. There was no blood flow on Doppler imaging. No other lesion was noted on breast sonography. Mondor’s disease was diagnosed and symptomatic treatment with analgesics was given. The cord-like lesion and tenderness disappeared within 2 weeks, and she has had no further discomfort in the breast.

**DISCUSSION**

Mondor’s disease is a rare entity and has an estimated incidence of 0.84% to 0.96% of breast clinic patients [3]. This disease is 10 times more common in women than men [4]. The known causes of this disease include trauma, breast surgery (including core biopsies [4]), local inflammation, muscular strain [5], wearing of tight clothing [6], breast injections by drug abusers [7] and hypercoagulation [8]. The most commonly involved vessels are the thoracoepigastric, lateral thoracic, and superior epigastric veins [9]. It typically presents as a palpable and painful subcutaneous cord-like lesion in the lateral chest wall. A protrusion or furrow can be seen in the skin near the vein.

Diagnosis is based on symptoms and physical findings. Efforts have been made to image Mondor’s disease with mammography and venography, but these procedures may cause discomfort and are thought to be inadequate. Breast sonography is a convenient, reproducible, inexpensive and comfortable method of obtaining real-time images. It is especially useful in young Asian women with dense breasts, such as our patient. The sonographic features of Mondor’s disease are tubular structures with hypo- or hyperechogenicity in the subcutaneous layer. In cross section, circular or oval shadows are found. Blood flow, which depends on the status of thrombosis or recanalization, sometimes occurs and can be seen with Doppler imaging. The differential diagnoses of cord-like lesions in the breast include infection, inflammatory breast cancer and indurated carcinoma. During sonographic examination, close attention must be paid to the tissue surrounding the cord-like shadow and axillary area because this disease is occasionally due to external compression, either by primary breast cancer or by metastasis to the axillary lymph nodes. Mondor’s disease is associated with breast cancer in 2.4% to 12% of cases [3, 4, 10].

Mondor’s disease is a benign self-resolving process, except in patients with associated breast cancer. Johnson et al classified Mondor’s disease into four stages according to the pathologic findings in biopsy specimens [11]. First, there is thrombus formation within the affected vein, with inflammatory cell infiltration. Second, the thrombus becomes organized. Third, recanalization and formation of a small lumen occur in the thrombolized vein. In the fourth and final stage, recanalization is completed and a perivasculare response is reduced.

In the majority of cases, specific treatment beyond symptom control is not required. Analgesics, heat packing and breast support are helpful for pain relief. Most lesions resolve over a period of 2 to

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**Fig. 1.** A tubular hypoechoic lesion is seen in the subcutaneous layer of the breast.

**Fig. 2.** Cross section of the tubular structure shows an oval shadow with a calculated diameter of 0.342 cm.
8 weeks [9, 12]. Patients with an unusual clinical course should be monitored carefully until the condition improves. A biopsy should be carried out only when a suspicious lesion is seen on sonography, or when the cord-like structure does not disappear as expected.

**CONCLUSION**

Mondor’s disease is usually a benign and self-limiting entity, but in a small proportion of cases, it is associated with breast malignancy. Sonographers should be aware of this entity and carefully distinguish breast cancer from benign conditions.

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**REFERENCES**


