» **Case Report** «

Tight Bra in a 34-Year-Old Woman: An Unusual Cause of Mondor's Disease

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Mondor's disease is characterized by thrombophlebitis of the superficial veins of the breast and the chest wall. The list of causes is long. Various types of clothing, mainly tight bras and girdles, have been postulated as causes. We report a case of a 34-year-old woman who referred typical symptoms and signs of Mondor's disease, without other possible risk factors, and showed the cutaneous findings of the tight bra. Therefore, after distinguishing benign causes of Mondor's disease from hidden malignant causes, the clinicians should consider this clinical entity.

Keywords: Mondor's disease, superficial thrombophlebitis, thoracoepigastric veins

Introduction

Mondor's disease is an uncommon condition characterized by thrombophlebitis of the superficial veins of the breast and the chest wall. It is a benign and self-limiting disorder.¹⁾ To our best knowledge, it has been reported in the literature that it can be associated with occult benign or malignant breast disease,²⁾ adenopathy, biopsy of the breast,³⁾ breast surgery, large pendulous breast, trauma,⁴⁾ infection, muscular strain, intra-venous drug use,⁵⁾ shaving, radiation and coagulation disorders.⁶⁾ In many cases the cause remains uncertain. Moreover, various types of clothing, mainly tight bras and girdles, also have been postulated as the causes of Mondor's disease. We report a case of a 34-year-old woman who was referred with typical symptoms and signs of Mondor's disease, without other possible risk factors, and showed the cutaneous findings of the tight bra. Therefore,

fundamental is distinguishing benign causes of Mondor's disease from hidden malignant causes. Finally, although this disorder is rare, the clinicians should be aware of this clinical entity.

Case Report

A 34-year-old woman was referred with a localized pain, started 10 days before and followed by palpable, indurated and reddened cord in correspondence with a branch of lateral thoracic vein in the upper outer quadrant of the left breast. The pain was exacerbated by abduction movements of the left arm. She reported no significant past medical or surgical history and denied any trauma or surgery. Physical examination revealed a 6-cm ropelike, indurated and reddened superficial mass in the upper outer quadrant of the left breast. There were no bruises or changes in skin integrity. Moreover, we observed the cutaneous findings of the tight bra, and found that the tip of underwire bra corresponded to the area of the palpable cord (Fig. 1). With the suspicion of Mondor's disease, Doppler ultrasound was carried out, with confirmation of the diagnosis. The sonogram showed a beaded superficial vein that was not compressible during scanning (Fig. 2) and an echogenic thrombus in the lumen. Laboratory investigations that were started to exclude the suspect of thrombophilia and all rheumatic tests were negative. Thoracic-abdominal computed

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Fig. 1 (A) A subcutaneous 6-cm cord-like structure in the upper outer quadrant of the left breast suggesting Mondor's disease. (B) Black arrows show the cutaneous findings of the tight bra, whereas the white arrow shows that the tip of underwire bra corresponded to the area of the palpable cord.

tomography (CT) was performed to reveal a potential hidden tumor, also resulting negative. Mammography, performed 2 months before, showed no pathological features. The patient was treated with warm-wet compresses and non-steroidal anti-inflammatory drugs. Moreover, she was recommended not to wear tight bras. Her symptoms disappeared after 7 days of treatment. She recovered uneventfully at 2-week follow-up examination.

Discussion

The surgeon Henri Mondor was the first to describe a superficial thrombophlebitis of the anterior thoracoabdominal wall in 1939. Therefore, the disease carries his name. The disease is mainly common in middle-aged women.⁶⁾ Typical symptoms of Mondor's disease include pain, hardening and sometimes redness along the involved vein. Extended inflammation may cause the breast tissue overlying the vein to retract, finding mistakenly attributed to infiltrating carcinoma. These symptoms and findings are usually self-limiting. The course of disease is generally 2–8 weeks.⁶⁾ There are many causes of Mondor's disease but in spite of this it is rarely observed. Thrombophlebitis commonly involved the thoracoepigastric, lateral thoracic, and superior epigastric veins. Superficial veins that run over the lateral chest wall to the anterior axillary line are usually affected.⁷⁾ In many cases Mondor's disease has been reported in patients with hidden breast cancer. The diagnosis is usually made clinically, but diagnostic imaging gives the opportunity to explain that a palpable mass is the cord of a thrombosed superficial vein and to exclude a potential occult tumor.

Fig. 2 (A) Sonogram shows beaded, noncompressible tubular structure (white arrows) corresponding to palpable thrombosed superficial vein. The lumen is occupied by echogenic material corresponding to thrombosis. (B) Color-flow Doppler sonogram shows normal flow in the superficial vessel at 2-week follow-up examination.

The mammographic features of Mondor's disease have been reported.⁸⁾ Reports of sonographic findings, such as in our case, are very rare. Doppler ultrasound is the technique of choice for confirming the diagnosis and resolution of the condition.⁹⁾ The pathophysiologic mechanism of this disorder is unclear, but a multifactorial phenomenon has been postulated. Direct trauma to the vein during biopsy or breast surgery and direct pressure on the vein by a breast mass or axillary metastases or tight clothing, such as in our case, can result in stasis of blood evolving into superficial thrombophlebitis. The treatment is conservative, with non-steroidal anti-inflammatory medication and occasionally topical heparinizing agents to reduce the pain and local inflammation.¹⁰⁾ Conservative therapy usually allows resolution. The use of anticoagulants is subject to controversy. In any case, anticoagulation must be conditioned to the existing benefit/risk ratio and to the possibility of further thrombotic events. The resolution of the abnormalities should be confirmed with a clinical and instrumental follow-up. In our case the patient did not know of any previous

events or incidents that could have caused her thrombophlebitis, referred a negative family history of phlebothrombosis, and all laboratory reports and imaging excluded Mondor's disease secondary to other disorder. Although it is not a precancerous lesion, Mondor's disease has occurred in many patients with occult lesions; hence uppermost, it is necessary to exclude malignant lesions, and patients whose clinical condition fails to resolve within the expected time period should undergo further work up.

Conclusions

Mondor's syndrome is an infrequent condition and the list of etiologies is long. In our patient, after excluding other disorders, we postulate that the underwire bra caused direct trauma to the vein evolving into superficial thrombophlebitis. Therefore, important is distinguishing benign causes of Mondor's disease from hidden malignant causes.

Disclosure Statement

All authors disclose any financial relationship with a biotechnology manufacturer, a pharmaceutical company, or other commercial entity that has an interest in the subject matter or materials discussed in the manuscript. All authors have no conflict of interest.

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