Mondor's disease of the breast: is there any relation to breast cancer?

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Summary

Ten cases of Mondor's disease of the breast (9 females, 1 male) are described. The diagnosis was based mainly on clinical examination, while breast imaging, used in five cases, was complementary. Most of our cases (9) had complete restoration of the thrombosed subcutaneous breast vein, either spontaneously (4), or after anti-inflammatory medication (5). Only one of our patients had surgical management (vein excision) due to delayed remission. None of our cases was related to breast cancer.

Key words: Mondor's Disease; Breast Cancer; Mammography.

Introduction

Mondor's disease is a thrombophlebitis of a subcutaneous vein of the anterolateral chest wall. It was first described by Fagge in 1870 [1]. Several other reports followed [2, 3] until Henri Mondor, a French surgeon, described the histologic characteristics of the disease in 1939 [4]. Since then, the disease has carried his name.

Mondor's disease is a self-limited entity, devoid of complications such as thrombophlebitis and, in this context, it has little clinical significance. However, it often causes undue concern and fear of cancer, mainly because of the dimpling of the skin it produces, and may result in an unwarranted breast biopsy. The surgeon should therefore be familiar with this clinical entity and able to make the diagnosis, exclude malignancy and avoid unnecessary surgery.

Materials

Over the past nine years, Mondor's disease was diagnosed in ten patients at our Breast Unit. Nine of our patients were women and one a man. Mean age was 36 years, ranging from 24 to 49 years.

The first symptom in all of our patients was a well-localized severe pain and tenderness in the anterolateral chest wall, while self-palpation revealed a tender, cord-like structure. The presence of this structure was verified by physical examination, which also disclosed retraction of the skin when the arm was raised.

The causes of Mondor's disease in our series included: a) breast biopsy in five female patients, followed by local trauma in three, b) recent local trauma was reported by two other female patients, c) history of direct trauma a few days before the development of thrombophlebitis, and Hodgkin's disease treated by chest radiotherapy 31 years before was reported by our male patient, and d) no apparent cause could be identified in our last two cases. The disease was not associated with breast cancer in any of our patients.

Clinical examination was the basic diagnostic tool in all of our female patients. Four of them had a mammogram which was indicative of Mondor's disease, showing a tubular structure in the upper outer part of the breast extending towards the axilla, without any other breast abnormality. Due to the rareness of the disease in male patients, our male case was submitted to mammography in order to confirm the diagnosis and exclude other pathologic conditions: the mammographic findings were indicative of a thrombosed superficial vein.

Spontaneous remission was observed in four cases, while in five a short therapy of anti-inflammatory agents was given, and complete resolution was achieved within two weeks to three months. In one female patient surgery was offered (excision of the thrombosed vein) due to delayed resolution, and despite the anti-inflammatory medication prescribed.

Discussion

Mondor's disease is an uncommon clinical entity. The majority of the cases are attributed to direct trauma or breast surgery, either oncologic or aesthetic [5, 6], while less frequent causes include local infection, extensive physical activity, rheumatic arthritis, tight bandaging, heavy pendulous breasts [7, 8], sentinel lymph node biopsy [9], and protein S deficiency [10]. There are also cases, described as primary disease, where no apparent cause can be identified [8]. This pattern of etiologic factors was verified in our series.

Interestingly, Mondor's disease is rarely associated with breast cancer. Cancer of the breast was present in only five out of 101 cases reported by Farrow [7] in the largest series up to date, while the highest reported incidence of breast cancer in association with Mondor's disease was 12.7% in a series of 63 patients, reviewed by Catania [8]. A few more cases of concomitant Mondor's disease and breast cancer have been reported occasionally [11], while there

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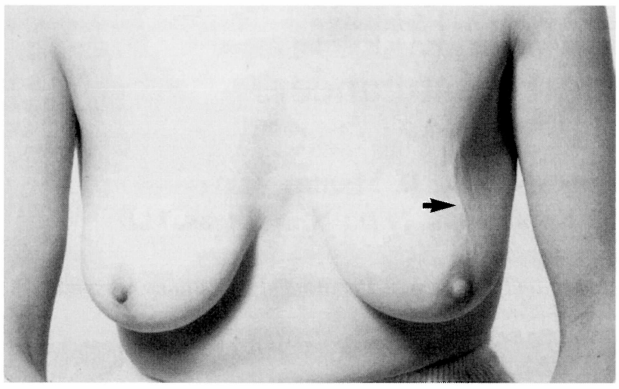

Figure 1. — Picture of one of our female cases: the thrombosed vein as a cord-like structure is shown (by the arrow) in the upper outer quadrant of the left breast extending towards the axilla.

has been only one patient with Mondor's disease associated with metastatic axillary nodes [12]. None of our cases was related to breast cancer.

The disease is 3-14 times more frequent in women than in men [5, 7, 8]. Taking into account that it is an uncommon condition in all events, it is obvious that Mondor's disease is extremely rare in males. Our male patient with Mondor's disease is one of about 50 patients with this condition reported in the literature [10].

The disease almost always involves subcutaneous veins of the lateral aspect of the breast. According to Farrow [7], veins draining medially toward the internal mammary vein are, for some reason, never affected. Nevertheless, one of the 63 patients in the series of Catania [8] had this unusual presentation, in association with breast carcinoma.

Diagnosis of Mondor's disease is based on physical examination. Many of the patients refer to local pain [13]. Palpation will disclose a tender, cord-like subcutaneous structure at the anterolateral chest wall. Raising of the arm may reveal a furrow in the skin overlying the thrombosed vein, whereas inflammation of the subcutaneous tissue around the thrombosed vein may cause skin dimpling, which can be erroneously attributed to infiltrating carcinoma [8]. When the affected vein lies superficially enough, a redness or a protrusion along its course might be visible.

The differential diagnosis should be made between Mondor's disease and lymphangitis, mastitis, fibromatosis and, rarely, arthritis [7, 13]. Physical examination is usually sufficient in making the right diagnosis, whereas in questionable cases breast imaging would prove helpful [14, 15]. Ultrasonography was able to reveal a non-compressible, hypoechoic, undulating tubular structure in the subcutaneous fat, while colour Doppler imaging showed no flow signal in the thrombosed vein [14]. None of our cases had a breast ultrasound. The typical mammographic figure is that of a thickened rope-like density [15, 16]. The superficial position of this structure will help in the differential diagnosis between a thrombosed vein and an isolated, dilated mammary duct or dense breast parenchyma.

Prognosis of Mondor's disease is always favourable and no specific treatment is required. Anti-inflammatory agents are often useful [9], and five of our cases had a short period of such medications. Complete clinical and imaging resolution is expected within two to ten weeks [5, 7].

Conclusion

Mondor's disease is an uncommon clinical entity of benign etiology. In the majority of our patients it was either due to breast surgery or local trauma and in almost all of them it resolved spontaneously within a few weeks. Its clinical significance lies on the need of ruling out breast cancer. Differential diagnosis is made clinically and, in doubtful cases, it is assisted by breast ultrasound and mammography.

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