CASE REPORT

Varicosity of a single breast: a rare entity

Vinod Jain,¹ Samir Misra,¹ Vaibhav Jaiswal,² Saumya Singh²

¹Department of Surgery, King George's Medical University, Lucknow, Uttar Pradesh, India

²Department of General Surgery, King George's Medical University, Lucknow, Uttar Pradesh, India

Correspondence to

Dr Vinod Jain,
vinodjainkgmu@yahoo.co.in

Accepted 26 August 2014

SUMMARY

Varicosity of the breasts is a rare clinical entity that may lead to symptoms such as prominent vascular markings over the breasts and may be painless; in long-standing cases it can lead to recurrent bleeding episodes. Bilateral venous affection in the breasts has been described in the literature; however, unilateral affection is a rarely documented phenomenon. Since vascular affliction of a single breast is rare and there is inherent difficulty in obtaining a histopathological diagnosis against a background of suspicion of malignancy, it is always challenging to provide optimal management to the patient. We are reporting a rare case of a 42-year-old, postmenopausal Indian woman with a long-standing history of unilateral varicosity of the left breast, who was treated successfully with a simple mastectomy; postoperative histopathology was consistent with benign vascular lesion, that is, angiomatosis.

BACKGROUND

Benign vascular lesions of the breasts pose a diagnostic challenge. Angiomatosis of the breasts is a rare benign entity associated with high morbidity in the form of massive enlargement of the breasts, recurrent episodes of haemorrhage, wound infection and relapses after surgical excision. It must be differentiated from angiosarcoma. In this article, we present the clinical, imaging and pathological findings of a postmenopausal Indian woman who presented with varicosities of the left breast leading to recurrent bleeding with characteristic reticular vascular markings involving both breasts. On imaging she was considered to have venous varicosities involving mainly the left breast. A simple mastectomy was performed in wake of the patient's concern of bleeding and perceived anxiety for malignancy.

CASE PRESENTATION

A 42-year-old postmenopausal, multiparous Indian woman presented with a 7-year history of superficial dilated tortuous veins over her left breast (figure 1). The lesion started as an erythematous patch in the lower outer quadrant of her left breast, which gradually enlarged with the appearance of vesicular eruptions filled with fluid. The patient did not complain of pain, swelling or nipple discharge. In due course of time the eruptions turned out in spontaneously ruptured multiple bullous lesions spreading over the whole of the left breast. The patient consulted a local practising surgeon because of repeated episodes of bleeding from the lesions. The surgeon performed a biopsy from the lesion but diagnosis was not established. This repeated haemorrhage was the only concern of the patient

Figure 1 Patient preoperative: dilated vascular eruptions involving left breast.

for which diathermy coagulation of the dilated veins was also attempted. There was no history of pain, fever, nipple discharge, loss of weight, trauma, jaundice or any long-standing illness. Family history of breast-related disorders or any malignancies was absent.

Examination revealed large pendulous breasts. Multiple dilated, tortuous veins coursed over the whole affected breast, sparing the nipple-areola complex with clotting spots from previously ruptured tortuosities. No obvious lump was detected on palpation and the lesions were non-tender.

A clinical diagnosis of varicose vein of breast was considered.

INVESTIGATIONS

Mammography demonstrated multiple enlarged tortuous hyperdensities with a beaded appearance suggestive of tortuous and dilated vessels seen in both breasts. A few foci of macrocalcification were

Figure 2 Mammography.

CrossMark

To cite: Jain V, Misra S, Jaiswal V, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-206125

Figure 3 HRUSG and colour Doppler.

Figure 4 Breast MRI.

Figure 5 Intraoperative image showing vascular channel communicating between premammary and mammary spaces.

noted in both breasts. There was no nipple retraction, thickening of skin or any evidence of axillary lymph node (figure 2).

The high resolution ultrasonography and colour Doppler study revealed multiple dilated tortuous anechoic channels in the premammary and mammary regions, showing a slow venous pattern of flow and channels extending in the lower part of the axillary region. The lesion had also infiltrated the muscle in the retromammary region of the left breast (figure 3).

The MRIs of the breast further clarified the issue and revealed that superficial venous varicosities were in both breasts but only the left breast had deep vascular channels (figure 4).

DIFFERENTIAL DIAGNOSIS

Vascular disorders of the breasts are a rare affection. Depending on whether the involvement is symmetrical or asymmetrical we should consider the following possibilities:

- ▶ Symmetrical
 - Congestive heart failure,
 - Varices from superior vena cava syndrome,
- ▶ Asymmetrical
 - Superficial thrombophlebitis,
 - Varix and venous collaterals.

Pathologically, breast tumours with vascular differentiation are:

Figure 7 Histopathological section shows variably sized vascular channels filled with blood with focal lymphomononuclear infiltrate (H&E $\times 4$ scanner view). In inset the section shows variably sized vascular channels filled with blood with surrounding moderate lymphomononuclear infiltrate (H&E $\times 4$ scanner view).

- ▶ Haemangioma,
- ▶ Angiomatosis,
- ▶ Angiosarcoma,
- ▶ Perilobular haemangioma,
- ▶ Venous haemangioma,
- ▶ Pseudoangiomatous stromal hyperplasia.

TREATMENT

The patient was under psychological stress because of massive enlarged breasts and recurrent episodes of haemorrhage from the affected breast; surgical intervention was considered for treatment after discussion and consent of the patient. Left-sided simple mastectomy was performed under general anaesthesia (figures 5 and 6). Reconstruction was not considered as per the wishes of the patient.

OUTCOME AND FOLLOW-UP

The immediate postoperative period was uneventful and the patient was discharged home after 5 days (figure 7).

Figure 6 Resected specimen.

Figure 8 Four week follow-up after left-sided mastectomy.

Pathological analysis of the resected specimen identified a growth of 12×12×6 cm in size, which was not clinically apparent probably because of diffuse indurations present over the whole of the breast. The histomorphology was consistent with benign vascular lesion but considering the large size of the tumour, to rule out angiosarcoma, immunohistochemistry was done (figure 8). Immune histochemistry showed CD 34 positivity and very low Ki67 (1–2%). Finally a postoperative diagnosis of angiomatosis of the left breast was considered.

DISCUSSION

Vascular proliferations in the breasts are uncommon and potentially challenging lesions in terms of diagnosis, prognosis and management.

Angiomatosis is a benign vascular lesion that affects a large segment of the body in a contiguous fashion, either by vertically involving multiple tissue types (eg, subcutis, muscle, bone) or by involving similar tissue types (eg, multiple muscles).¹

Angiomatosis does not, however, show histological progression to sarcoma and does not have metastatic potential. Angiomatosis of the breasts has been rarely described in the age group between birth and 59 years.^{2–5} Histomorphology shows a diffuse network of small and large predominantly empty, anastomosing vascular channels that proliferate around, but do not dissect into the breast lobule. These vascular channels, in particular, are distributed uniformly throughout the tumour, in

contrast to angiosarcoma. Although an exact diagnosis may not be possible with a biopsy of this kind of vascular lesion, a thorough imaging with breast MRI can define and quantify it.

Unilateral mastectomy was performed after discussion with the patient. The indication for mastectomy in our patient was symptomatic vascular proliferation and the patient's concerns of malignancy, infection and haemorrhage.

Learning points

- ▶ Visible varicosities of a single breast are an extremely rare entity.
- ▶ Although benign, these lesions are associated with high morbidity.
- ▶ Radiological evaluation with HRUSG, colour Doppler and MRI is a must in such conditions, as an inherent propensity to bleed leads to difficulty in acquiring a biopsy.
- ▶ These lesions must be differentiated from angiosarcoma of the breast.
- ▶ Almost all lesions require surgical excision (wide local excision/simple mastectomy).
- ▶ Relapses may occur even after complete excision.

Acknowledgements The authors acknowledge Vivek Tiwari Central Library, King George's Medical University, Lucknow for help in submitting this case report.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Rao VK, Weiss SW. Angiomatosis of soft tissue. An analysis of the histologic features and clinical outcome in 51 cases. *Am J Surg Pathol* 1992;16:764–71.
- 2 Rosen PP. Vascular tumors of the breast. III. Angiomatosis. *Am J Surg Pathol* 1985;9:652–8.
- 3 Kinkor Z, Hes O, Skálová A, et al. Massive breast angiomatosis with dramatic course leading to acute total mastectomy—a case report. *Ceska Gynekol* 2006;71:344–7.
- 4 Morrow M, Berger D, Thelmo W. Diffuse cystic angiomatosis of the breast. *Cancer* 1988;62:2392–6.
- 5 Shirley SE, Duncan ND, Escoffery CT, et al. Angiomatosis of the breast in a male child. A case report with immunohistochemical analysis. *West Indian Med J* 2002;51:254–6.

Copyright 2014 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow