Micropapillary carcinoma of the breast: A case review at Mankweng Hospital breast oncology clinic in Limpopo Province, South Africa

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Invasive micropapillary carcinoma (IMPC) of the breast is a clinically aggressive rare form of breast cancer. Patients with IMPC present with higher clinical stages, higher histological degrees, higher rate of lymph-vascular invasion and axillary lymph node extracapsular extension. In this case report, we seek to explore and share our experience of invasive micropapillary carcinoma of the breast and give a literature review of the standard of care.

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Breast cancer is the most common cancer in females.[1] Invasive micropapillary carcinoma (IMPC) of the breast is a clinically aggressive and rare form of invasive ductal carcinoma (IDC), accounting for <6% of breast cancer cases.[2,3] There are no specific distinguishing features to differentiate between IMPC and IDC, and 80% of patients have lymph node metastasis at presentation with histological findings highly positive for oestrogen receptor (ER) and human epidermal growth receptor-2 (c-erbB-2) (88% and 84%, respectively).[4-6] IMPC was first described in 1980, and it was thought that patients with IMPC experience worse outcomes than those with IDC because of its higher propensity for lymph-vascular invasion and lymph node metastasis.[4-8] The main objective of this case report is to share our experience with IMPC and give a literature review of the standard of care. Ethical approval was obtained from the Pietersburg/Mankweng Hospital Research Ethics Committee (ref no. PMREC 25 AUGUST UL 2021/E).

Case presentation

An 81-year-old African female patient presented at Mankweng Hospital breast oncology clinic (Limpopo Province, South Africa) as a referral from a peripheral hospital. The main complaint was progressive swelling of the left upper limb involving the ipsilateral breast. According to the patient, she had a prick on the left hand for more than 18 months, then her upper limb was progressively swelling and ultimately led to left breast involvement. She consulted various traditional healers at the time when she started experiencing symptoms; however, there was no improvement to her condition. It is at this point that she started seeking medical attention at her local hospital more than a year after the onset of her symptoms. A biopsy on the breast mass was done on the initial presentation prior to breast oncology referral.

She was a healthy individual, multiparous with a total of 5 children. The onset of menarche and menopause is not known, and she had no significant family history of breast cancer.

Upon examination, the left upper limb was swollen from the fingers all the way through to the shoulder joint and also involving the left breast. There were multiple ulcerated lesions and masses of various sizes on the breast, axilla and shoulder region (Fig. 1). There was notable peau d'orange skin changes and nipple retraction. There were no obvious abnormalities detected on the contralateral upper limb, and cardiovascular, respiratory, abdomen and musculoskeletal systems.

Histopathological evaluation of the incision biopsy of the left breast mass showed skin-surfaced tissue, invasive neoplasm, and small nests of malignant cells, largely involving the lymphatic vessels. There were markedly pleomorphic cells that displayed brisk mitotic activity and showed no tubule-forming behaviour. No evidence of ductal carcinoma *in situ* was displayed in the tissue section. These features are in keeping with IMPC.

The patient was referred to the medical oncology clinic; however, she ultimately succumbed to her illness before the date of her treatment.

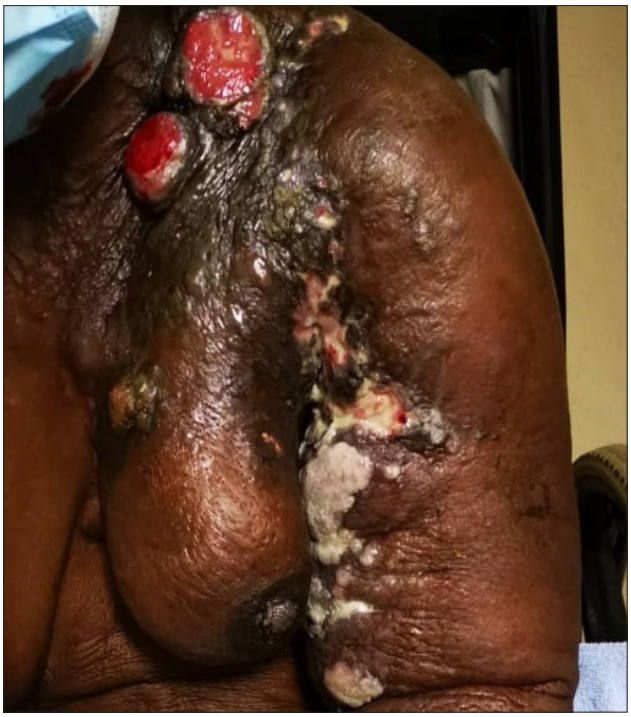

Fig. 1. Advanced left-sided breast cancer with ulcerated lesions, masses of various sizes and also extending to the left upper limb.

Discussion

The most common presentation of IMPC is a breast lump (61%) that may be associated with nipple retraction and/or erythema. The left breast has been shown to be commonly involved (71% of the IMPC cases), followed by the right breast (25%) and both breasts in 3% of the cases.[2]

Imaging studies show features of a typical breast malignancy, with MRI further showing features of lymphatic infiltration.[2,5] This implies that MRI can be used for diagnosis and treatment planning.[5]

Patients with IMPC present with higher clinical stages, higher histological degrees, higher rate of lymph-vascular invasion and axillary lymph node extracapsular extension.[7,8] IMPC patients have been shown to have a more unfavourable prognosis for loco-regional recurrence than IDC patients. However, there is no statistically significant difference between patients with IMPC and IDC as indicated by relapse-free survival (odds ratio (OR) 2.04; 95% confidence interval (CI) 1.63 - 2.55) and local regional recurrence-free survival (OR 2.82; 95% CI 1.90 - 4.17),[6,7,9-12] suggesting that radical or proactive clinical therapy is unnecessary. Treatment is individualised to include tailored therapeutic interventions or multidisciplinary approaches.

Conclusion

Invasive micropapillary carcinoma is a rare aggressive variant of breast cancer. Its frequent lymph-vascular invasion and high tumour grades correlate with its aggressive nature; however, no significant difference in overall survival has been proven yet. Patients must be encouraged to seek medical attention early as this can aid in better prognosis, and reduced morbidity and mortality.

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