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Management of a Rare Case of Locally Advanced Mucinous Carcinoma of The Breast: A Case Report

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ABSTRACT

Background: Clinically,Locally advanced breast cancer is a challenge because majority of patients develop distant metastases even after receiving the recommended therapy. Advanced breast cancer locally defined as large tumours size (> 5 cm), involvement of the overlying skin, invasion of chest wall, palpable axillary nodal (matted or fixed), or internal mammary and infraclavicular, or supraclavicular nodal involvement, as well as inflammatory carcinomas. The prognosis for locally advanced breast cancers depends on tumour size, the extent of lymph node involvement, and histological classification.

Objective: This study aimed to discuss locally advanced mucin-producing breast cancer.

Case report: Oncology Department referred a 27-year-old lady with a right breast lump that had been enlarging for more than two years to the surgical clinic because she was apprehensive about undergoing diagnostic tests. Physical examination revealed that she had no palpable mass in her right axilla and that her right nipple was entirely distorted and not even identifiable within the lump. The tumour totally replaced the right breast and was around 15 cm long.

Conclusion: Treatment coordination between medical oncology, surgical oncology, and plastic surgery is crucial in all instances of advanced breast cancer locally. Uncommon in young individuals, locally advanced breast mucinous carcinoma is a rare kind of cancer breast.

Keyword: Mucinous carcinoma, locally advanced, Mastectomy.

INTRODUCTION

Locally advanced breast cancer is defined large tumours size (> 5 cm), involvement of the overlying skin, Invasion of chest wall, palpable axillary nodal (matted or fixed), or internal mammary, infraclavicular, or supraclavicular nodal involvement, as well as inflammatory carcinomas [1-3]. This study treats the rare locally advanced breast mucinous carcinoma, which makes up around 1.5% of all breast malignancies.

CASE PRESENTATION

The oncology department referred a 27-year-old lady with a right breast lump that had been enlarging for more than two years to the surgical clinic because she was apprehensive about undergoing diagnostic tests.

Physical examination revealed that she had no palpable mass in her right axilla and that her right nipple was entirely distorted and not even identifiable within the lump. The tumour totally replaced the right breast and was around 15 cm long. Earlier this year, the initial histology report from a separate institution confirmed the diagnosis of right breast invasive carcinoma with mucinous features (micro papillary pattern), in addition to a few normal-sized lymph nodes in the right axilla and other results consistent with a healthy chest on thorax and abdomen CT scan. There were no signs of any abdominal anomalies or metastatic deposits, according to PET CT.

Management and outcome:

An urgent toilet mastectomy was decided upon after discussion of the case at our Oncology MDT Conference. Right mastectomy/tumorectomy, right axillary clearance, and breast reconstruction were then carried out. Throughout the successful procedure, hardly much blood was lost. There was no need for a blood transfusion for her. Indicated for the 15 cm residual defect that could not be closed due to the lack of skin and soft tissue was right axillary clearance, reconstruction, and defect closure over right chest wall utilising pedicle latissimus dorsi myo-cutaneous flap by plastic surgery team around three weeks later. She lost blood during surgery and developed post-operative anaemia. 2 units of packed RBCs were transfused while the patient was in the hospital. Dressings were changed often, and when the patient's condition was good, in a sound condition, she was returned home.

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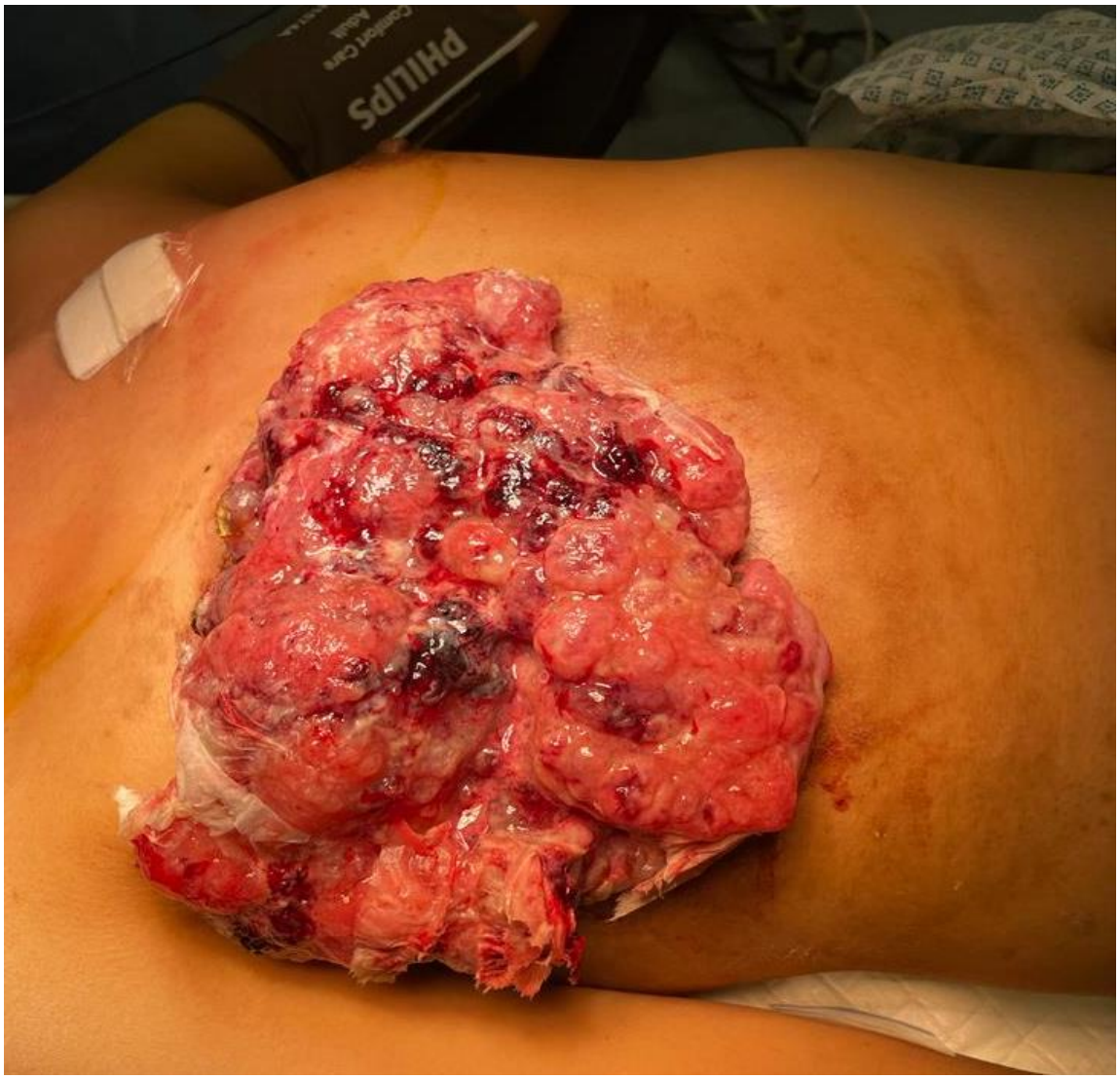

Figure (1): Exophytic infected right breast mass.

Figure (2): Toilet mastectomy.

Figure (3): Right breast reconstruction with latissimus dorsi myocutaneous flap.

Ethical approval: The patient gave written informed consent at the time of admission. The study was conducted out in line with the Helsinki Declaration.

DISCUSSION

Mucinous carcinoma of the breast is a rare type of breast cancer, with incidence rate from 1.5- 2 % of all breast carcinomas [1-2], and it is more common in postmenopausal females around 70 years [3]. Pure mucinous carcinoma is rare (1%) in women under 35 years old [2]. Breast mucinous carcinoma is distinguished from other tumour types by its gelatinous, glistening appearance, pushing edges, and soft interior. Microscopically, mucinous breast carcinoma is represented by nests of cells floating in mucin that are split with thin fibrous septa and capillary blood vessels inside [4].

Large cell clusters in type B or hypercellular mucinous carcinoma, also known as mucinous carcinoma, usually exhibit neuroendocrine differentiation [5]. Mucinous carcinoma type A, which has larger amounts of extracellular mucin, is the common variant [6]. The most frequent is combination with severe malignancy of any kind. Mucinous carcinoma must make up more than 90% of a pure tumour [4]. Although oestrogen and progesterone receptors are frequently positive [7], and androgen receptors are generally expressed at low levels, HER2 is not amplified in mucinous carcinoma [8]. Both pure and mixed mucinous carcinomas have been shown to express WT [9]. MUC2 and MUC6 are the MUC gene family members that are primarily expressed in mucinous breast cancer [10]. When first discovered, it may be rather large and usually takes time to develop. The mucinous material of the tumour is not firm or solid upon inspection [11]. When they initially arrive, many patients with mucinous breast cancer presented by a palpable breast lump. Although it is rare, large lesions have been observed to be fixed to overlying skin or anterior chest wall. With thorough screening, a sizable fraction of patients are diagnosed by abnormal findings in mammograms [12]. On mammography, breast tumours that are small and lobulated are usually discovered to be mucinous carcinomas [13].

On ultrasound, mucinous carcinoma often presents as a mass with microlobulation, vascularity, and distal enhancement [14]. Mucinous carcinoma on MRI is characterized by a lobular morphology, rim or heterogeneous enhancement, and homogeneous extremely high signal intensity on T2-weighted images [13, 15].

Tissue cytology and biopsy are necessary for the investigation and diagnosis of breast mucinous carcinoma.

The mainstay of the care of mucinous breast cancer in hormone-responsive (ER/PR) tumours is surgery along with post-operative hormone therapy.

Axillary staging for mucinous carcinoma was recommended by a recent study employing sentinel lymph node biopsy, hormone therapy and adjuvant radiotherapy, post breast preservation [7, 16]. Most mucinous carcinomas do not express the HER2/neu protein, hence trastuzumab is not utilised to treat them. Trastuzumab is approved for use in the management of metastatic breast cancer and in adjuvant therapy for HER2-positive early-stage tumours according to some specialists [17-18].

CONCLUSION

Treatment coordination between medical oncology, surgical oncology, and plastic surgery is crucial in all instances of advanced breast cancer locally. Uncommon in young individuals, locally advanced breast mucinous carcinoma is a rare kind of cancer breast. The prognosis is excellent with early diagnosis and treatment. With ongoing funding for scientific and clinical research, the treatment and outlook for females with advanced breast cancer locally will improve even more.

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