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Case Presentation
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Metaplastic Breast Carcinoma

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Abstract

Tumors of the breast having both epithelial and mesenchymal features were defined as metaplastic mammary carcinoma in 1973. This group of rare breast carcinomas represents less than 1% of all breast carcinomas. A case of metaplastic breast carcinomas is discussed here with good clinical outcome after surgery.

Keywords: Breast; Metaplastic carcinoma; Mammary cancer

Introduction

Tumors of the breast having both epithelial and mesenchymal features were defined as metaplastic mammary carcinoma in 1973. This group of rare breast carcinomas represents less than 1% of all breast carcinomas [1]. Epithelial origin of sarcomatoid areas has been demonstrated by ultrastructral and immunohistochemical analysis. It is a heterogenous disease and includes osteoclastic giant cell metaplastic carcinoma; chondroid differentiated metaplastic carcinoma and adenosquamous carcinoma subgroups [2]. Usual clinical presentation is similar to ductal carcinoma except for larger size, lesser incidence of regional lymph nodes involvement, lack of hormone receptor expression and higher incidence of systemic disease at the time of diagnosis in metaplastic carcinoma [3]. A case of this rare breast carcinoma is discussed here.

Case Presentation

Here presented is a case of 40 years old, otherwise healthy lady who presented with the progressive enlargement of her left breast for 4 months and noticed a palpable mass of 3 cm × 3 cm for 3 months. Physical examination of the patient suggested a mass in her left breast and there was no palpable clinically significant lymphadenopathy. Her right breast was normal. Routine haematologic and biochemical profile was normal. Ultrasound breast and mammography revealed a 3 cm circumscribed lesion in her left breast (Figure 1). Excision biopsy was performed which suggested the lesion to be metaplastic mammary carcinoma. Modified radical mastectomy with axillary lymph node clearance was done. The histopathology report was consistent with the metaplastic mammary carcinoma (Figure 2). The tissue was negative for ER, PR and HER-2 neu receptors. The patient is doing well after five years of surgery.

Discussion

Metaplastic breast carcinoma is usually seen in fourth to sixth decade; median age range is 48 to 59 years [4]. Axillary lymph node involvement is not frequently seen despite large size of tumor and rapid growth. On diagnostic mammography the mass appears as a high density lesion with circumscribed, irregular, speculated or obscured margins. On MR imaging Metaplastic breast carcinoma is usually described as an irregular mass with speculated margins, hypointense or isointense on T1 and intermediate to increased signal intensity on T2 weighted images [5]. Metaplastic breast carcinomas respond poorly to systemic chemotherapy. The role of neoadjuvant chemotherapy in decreasing tumor burden and disease progression has been found to be minimal. Therefore surgical therapy remains the first option in operable disease regardless of the size of the tumor. Metaplastic breast carcinoma is classified into two subgroups, epithelial type and mixed type. Epithelial group is further divided into (1) squamous cell carcinoma, (2) adenocarcinoma with spindle cell differentiation, and (3) adenosquamous carcinoma and mixed type is divided into (1) carcinoma with chondroid metaplasia, (2) carcinoma with osseous metaplasia, and (3) carcinosarcoma [6]. According to conversion/Metaplastic theory for monoclonal origin, the heterogeneous sarcomatous components are derived from the carinomatous component through a Metaplastic or conversion process. High levels of angiogenesis and expression of VEGF and HIF-1ά are commonly found in metaplastic breast carcinomas [7]. Treatment with agents targeted against these receptors like mTOR inhibitors (Temsirolimus) result in reduction in levels of hypoxia-inducible factor 1 and

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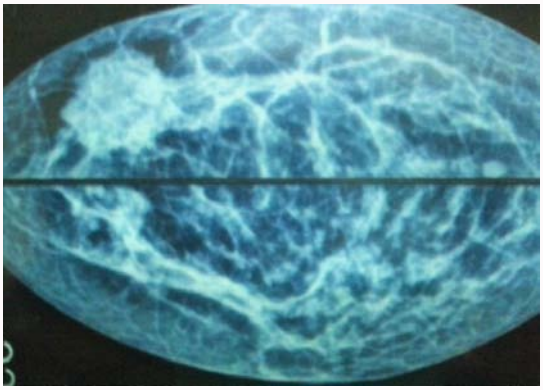

Figures 1: On USG mammography, a 3 cm circumscribed lesion was seen.

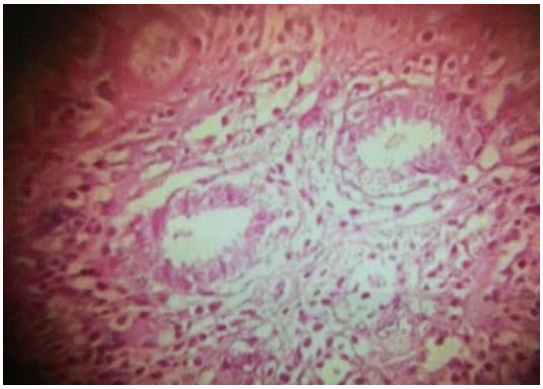

Figure 2: The histopathology report was consistent with the metaplastic mammary carcinoma.

VEGF (Vascular Endothelial Growth Factor), and also enhances the effect of inhibition of vasculogenesis by bevacizumab [8].

Conclusion

Specific treatment guidelines are not available for metaplastic mammary carcinoma. Though this heterogeneous group of tumors has unusual appearance the prognosis is similar to that of invasive breast carcinoma. Metaplastic carcinomas have aggressive behavior and poor prognosis has been reported in various case series. Currently surgery is the mainstay of the treatment, role of chemotherapy and radiotherapy is limited and under evaluation. In this case modified radical mastectomy and axillary clearance has shown good clinical outcome. Scope for further research in this rare type of breast carcinoma is open to achieve better results in future.

References

1. Huvos AG, Lucas JC Jr, Foote FW Jr. Metaplastic breast carcinoma. Rare form of mammary cancer. N Y State J Med. 1973;73(9):1078-82.
2. Wargotz ES, Norris HJ. Metaplastic carcinoma of the breast: V. Metaplastic carcinoma with osteoclastic giant cells. Hum Pathol. 1993;21(11):1142-50.
3. Khan HN, Wyld L, Dunne B, Lee AH, Pinder SE, Evans AJ, et al. Spindle cell carcinoma of breast: a case series of a rare histological subtype. Eur J Surg Oncol. 2003;29(7):600-3.
4. Al Sayed AD, El Weshi AN, Tulbah AM, Rahal MM, Ezzat AA. Metaplastic carcinoma of the breast clinical presentation, treatment results and prognostic factor. Acta Oncol. 2006;45(2):188-95.
5. Shin HJ, Kim HH, Kim SM, Kim DB, Kim MJ, Gong G, et al. Imaging of metaplastic carcinoma with chondroid differentiation of the breast. Am J Roentgenol. 2007;188(3):691-6.
6. Tavassoli FA, Devilee P. Tumors of the breast and female genital organs. Pathology and genetics of tumors of the digestive system. In World Health Organization Classification of tumors. Lyon, France: IARC Press. 2003;37-41.
7. Kochhar R, Howard EM, Umbreit JN, Lau SK. Metaplastic breast carcinoma with squamous differentiation: molecular and clinical analysis of six cases. Breast J. 2005;11(5):367-9.
8. Moulder S, Moroney J, Helgason T, Wheler J, Booser D, Albarracin C, et al. Responses to liposomal doxorubicin, bevacizumab, and temsirolimus in metaplastic carcinoma of the breast: biologic rationale and implications for stem-cell research in breast cancer. J Clin Oncol. 2011;29(19):572-5.