International Journal of Research in Medical Sciences
Patel K et al. Int J Res Med Sci. 2019 Nov;7(11):4385-4387
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20195022

Case Report

Carcinoma of breast with medullary features: a case report in 27 year old female

Krutika Patel*, Vashudha M. Bhagat, Bhavna Gamit, Deepshikha Dave

Department of Pathology, Government Medical College, Surat, Gujarat, India

Received: 17 June 2019
Revised: 09 July 2019
Accepted: 13 August 2019

***Correspondence:**
Dr. Krutika Patel,
E-mail: krux.hnh@gmail.com

ABSTRACT

Medullary carcinoma of breast is a rare variant of invasive ductal carcinoma of breast and its incidence is less than 5% of invasive breast carcinomas. These tumours tend to occur in younger women, with the average age reported to range from 42 to 52 years. Authors are presenting this case in a 27 years old female having single, large, well circumscribed mass in right breast for 6 months. Fine needle aspiration cytology report was proliferative lesion with atypia Histopathology report was given as carcinoma with medullary features. Immunohistochemistry showed Estrogen Receptor (ER), Progesterone Receptor (PR) and Her-2 neu negative. Authors are presenting this case of Medullary carcinoma of breast for being a specific histopathological subtype.

Keywords: Breast cancer**,** Invasive ductal carcinoma, Medullary carcinoma

INTRODUCTION

Breast cancer is the most common neoplasm in females worldwide. For the first time in 1977, Ridolfi et al. defined medullary. breast carcinoma (MBC) as one of the invasive and malignant subtypes of breast cancer.[1] The recent WHO classification of breast carcinoma has grouped medullary carcinoma, atypical medullary carcinoma (AMC), and subset of Invasive breast carcinoma no special type (NST) as carcinoma with medullary features. These tumors tend to occur in younger women, with the average age reported to range from 45 to 52 years.[2] Medullary carcinomas both typical (MBC) and atypical (AMBC)are rare breast tumors that account for <5% of invasive breast carcinomas.[3] Despite its aggressive histopathological appearance, these type of breast cancers have a favorable prognosis. Histopathological features of this type of tumor has specific findings which play important role in final diagnosis and management of the patient.[4]

CASE REPORT

A 27-year-old lady was presented with complain of mass in right breast for 2 months. All the evaluation in past medical history, drug history, family history and physical examination was unremarkable except for palpable mass in the right breast with multiple axillary lymphadenopathy. Bilateral sonomamography suggested 5.5x3.5 cm^2 heterogeneous mass with central anechoic lesion (necrosis) in right breast at 9 and 10 o'clock position. Multiple hypo echoic lymph nodes noted in right axillary region. Fine Needle Aspiration cytology (FNAC) was suggestive of proliferative lesion with cytological Atypia. The patient was operated for right breast lumpectomy and specimen was sent for histopathological examination.

Gross

Authors have received lumpectomy specimen measuring 8.5x8x2 cm^3 in size, well defined margins, outer surface

is smooth, greyish white in colour, soft to firm in consistency. The cut sections revealed focal areas of central necrosis.

Figure 1: Gross appearance: greyish white, well defined margins with central areas of necrosis.

Microscopical examination

Multiple sections from lumpectomy specimen showed cells arranged mainly in nodular pattern separated by thick fibro collagenous septa infiltrated by lymphocytes. Nodules show round tumor cells arranged in diffuse, sheets and syncytial pattern. At places tumor cells show peritheliomatous pattern and extensive areas of necrosis. Cells showed mild pleomorphism with round shape, hyperchromatic to vesicular nuclei, inconspicuous to prominent micro nucleoli and variable amount of eosinophilic cytoplasm. Occasional binucleated and multinucleated cells were seen. Peripherally normal terminal ductal lobular units with focal fat infiltration by necrosis and lymphocytes seen. Brisk mitotic activity (atypical and typical mitosis) seen. On immunohistochemistry tumor cells were focally positive for CK, vimentin and negative for ER, PR, HER2, CD99, S-100, CD34, LCA and chromogranin. Final diagnosis was made as Carcinoma with medullary features. Pathological stage pT2.

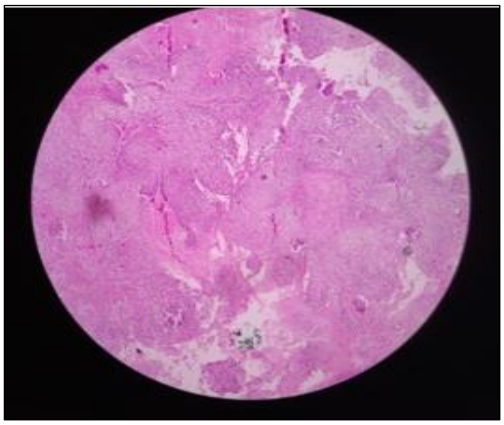

Figure 2: Scanner view (4x): h & e stain: nodular arrangement of tumour cells.

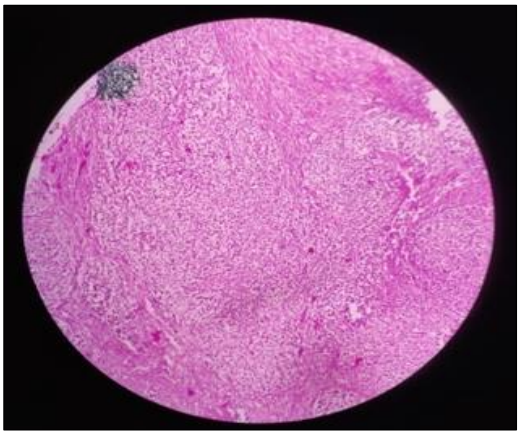

Figure 2: Scanner view (4x): h & e stain: nodular arrangement of tumour cells.

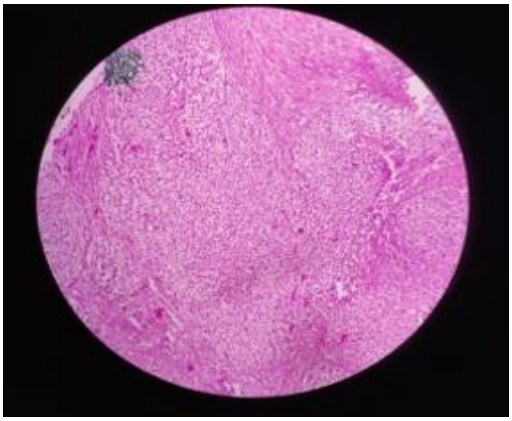

Figure 3: 10x view; h & e stain; smear show tumour cells are arranged in nodular pattern separated by fibro collagenous septa infiltrated by lymphocytic infiltrate nodules show round tumour cells arranged in diffuse, sheets and syncytial pattern.

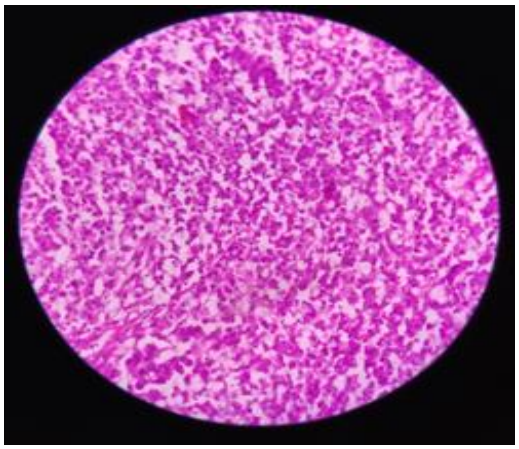

Figure 4: 40 x view; h & e stain; smear show cells having mild pleomorphism with round shape, hyperchromatic to vesicular nuclei, inconspicuous to prominent micro nucleoli and variable amount of eosinophilic cytoplasm.

DISCUSSION

According to WHO over 1.2 million women are diagnosed with breast cancer annually worldwide. Infiltrating ductal carcinomas is a broad entity which comprises of tumors that exhibit one or more characteristics of specific types of breast cancers(tubular, papillary, medullary or mucinous differentiation).[2] Medullary breast carcinoma accounts for less than 5% of all invasive breast cancers.[3,4] Clinically patients present with palpable breast lump, gradually increasing in size usually in the upper outer quadrant.[4] Usually patients with medullary carcinoma present at a relatively younger age, with average age to reported from 42 to 52 years.[2,5] BRCA1 mutation is likely to be presented with this carcinoma. In our case patient's age was 27 years and axillary lymphadenopathy was noted, however it showed reactive hyperplasia on microscopic examination with no evidence of metastasis in post lumpectomy M.R.M specimen. In ultrasound examination, MBC often shows a well-circumscribed hypoechoic mass, multilobulated appearance and intertumoral cystic areas that these can seem to be a benign lesion such as fibroadenoma or phyllodes tumors.[6] Grossly, carcinoma with medullary features is well circumscribed and may become large. The cut surface is solid, homogeneous, and gray, sometimes exhibiting small foci of necrosis.

The histopathological criteria for the diagnosis of typical medullary carcinoma include

A. syncytial growth pattern of cells in more than 75% of the tumor,
B. admixed diffuse lymphoplasmacytic infiltrate,
C. complete histological circumscription or pushing margin,
D. moderate to marked nuclear pleomorphism, mitosis and
E. absence of glandular structures.[2] In our case all above features were noted. Tumors that lack a variable number of these characteristics are classified either as atypical medullary carcinoma or invasive ductal carcinoma.[2]

In addition to various features on histopathology medullary carcinoma may be associated with hemorrhage, cystic degeneration, various type of metaplasia (most often squamous metaplasia) and tumor necrosis.[3] Regarding MBC, recent gene expression profile analyses indicate that MBC may be considered part of the basal-like carcinoma spectrum (ER, PR and HER-2 negative). Genetically, they are often associated with breast carcinoma (BRCA 1) onco gene mutations and TP53 alterations.[5] MBC have a favorable outcome despite these aggressive pathological features at presentation.[7] Treatment includes modified or radical mastectomy along with radiotherapy and chemotherapy depending on stage and histopathologic grade of tumor. The overall 5-year survival rate is approximately 78% for medullary carcinoma.

The differential diagnosis includes high grade ductal carcinoma, lymphoma, Epstein–Barr virus associated lymphoepithelioma like carcinomas.[2]

CONCLUSION

Breast carcinoma with medullary features is an uncommon type of infiltrative breast carcinoma that usually affects women around 50 years old. It usually misdiagnosed clinically and grossly with fibroadenoma as it has circumscribed/pushing borders. Hence, authors should keep in mind this type of carcinoma in differential diagnosis of fibroadenoma. Clinical and Histopathological evaluation is necessary for definite diagnosis and better management of the patient.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Ridolfi RL, Rosen PP, Port A, Kinne D, Miké V. Medullary carcinoma of the breast. A clinicopathologic study with 10-year follow-up. Cancer. 1977;40(4):1365-85.
2. Sinn HP, Kreipe H. A brief overview of the WHO classification of breast tumours, 4th ed. 46-48.
3. Santosh T, Bal AK, Patro MK, Choudhury A. Medullary breast carcinoma: A case report and review of literature. J Can Sci Ther. 2015;7:142-4.
4. Sunil V Jagtap1, Neerav Saini et al; Medullary carcinoma of breast: Case Report. JHBR, 2015;3(4):55-8.
5. Goldblum J, Lamps L. Rosai and Akerman's surgical pathology.11th ed.1436.
6. Ramezani M, Jalalvandi S, Rezaali F, Sadeghi M. Invasive Ductal Carcinoma of the Breast with Medullary features or Medullary Carcinoma of the Breast: A Challenging Histopathological Case Report with Review of Literature. Ameri J Medi Cas Rep, 2018;6(2), 26-2.
7. Zangouri V, Akrami M, Tahmasebi S, Talei A, Hesarooeih AG. Medullary breast carcinoma and invasive ductal carcinoma: a review study. Iranian J Medical sciences. 2018 Jul;43(4):365.

Cite this article as: Patel K, Bhagat VM, Gamit B, Dave D. Carcinoma of breast with medullary features: A case report in 27 year old female. Int J Res Med Sci 2019;7:4385-7.