Case Report:

Medullary carcinoma of breast: Case Report

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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. We are presenting this case in a 49 years old female having single, large, well circumscribed mass in right breast since 6 months. Fine needle aspiration cytology report was given as positive for high grade duct carcinoma of right breast. Histopathology report was given as medullary carcinoma of breast. Immunohistochemistry showed Estrogen Receptor (ER), Progesterone Receptor (PR) negativity and Her-2 neu positivity. We are presenting this case of Medullary carcinoma of breast for being a specific histopathological subtype.

Keywords: Breast cancer, Medullary carcinoma, Breast lump

Introduction

Medullary carcinoma of breast is uncommon variant of invasive ductal carcinoma, which constitutes about 5% of all breast cancers. 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.

Case report:

A 49 year old female presented with lump in upper outer quadrant of right breast since 6 months. On local examination a lump which was 5x4 cm in size, painless, soft to firm and mobile. Skin nipple, areola were unremarkable. No significant contributory history was there. All routine investigations were within normal limits. Radiological examination of chest, pelvis and abdomen showed no evidence of metastasis.

Cytopathological evaluation showed cellular smears of malignant cells arranged in sheets and clusters admixed with mature lymphocytes and plasma cells. Cytopathological features suggestive of high grade carcinoma of right breast. Modified Radical Mastectomy (MRM) of right breast was done and specimen was sent for histopathological examination.

Gross

We received a specimen of right modified radical mastectomy specimen with axillary clearance. MRM specimen on serial cut sections showed a tumor measuring 5x4.5x4 cm. (fig.1) which was round, well circumscribed, grey white mass with pushing...
margins. Nipple, areola and skin were unremarkable.

**Microscopic examination**

Multiple sections from right MRM specimen showed large syncitial growth pattern(80%) of neoplastic cells separated by loose stroma,(fig.2) . Neoplastic cells were large, round to oval having moderate pleomorphic, hyperchromatic or vesicular nuclei with prominent nucleoli and moderate amount of eosinophilic cytoplasm. Intervening stroma showed dense, diffuse lymphoplasmacytic infiltration (fig3). Tumor at periphery shows circumscription with a heavy lymphocytic infiltration(fig.4). Frequent mitotic activity was noted. Focal areas of necrosis were noted.

All eight axillary lymph nodes were free from metastasis. Final histopathological impression according to Bloom and Richardson criteria was given as medullary carcinoma of breast grade II. Immunohistochemistry study showed estrogen and progesterone receptor negative while Her-2 neu was positive.

**Discussion**

Medullary breast carcinoma accounts for less than 5% of all invasive breast cancers. Usually patients with medullary carcinoma present at a relatively younger age than the age of presentation of other breast cancers comparable as stated in a study by Rosen et al. It was found to constitute 11% of all breast malignancies among women aged 35 years and younger. Clinically patients present with palpable breast lump, gradually increasing in size and usually at upper outer quadrant. Bilateral medullary carcinoma is noted in about 3-18% of cases. In our case axillary adenopathy was noted, however it showed reactive change on microscopic examination with no evidence of metastasis.

Histopathological examination plays important role in diagnosis of tumor in medullary carcinoma. The criteria for diagnosis are: A) syncitial growth pattern cells in more than 75% of the tumor, B) admixed lymphoplasmacytic infiltrate, C) microscopic circumscription, D) nuclear grade of II or III, E) absence of glandular differentiation. In our case all above features were noted. In addition to various features on histopathology medullary carcinoma may be associated. Hemorrhage, cystic degeneration, various type of metaplasia (most often squamous metaplasia) and tumor necrosis. It is stated that prominent inflammation associated with medullary carcinoma has better prognosis compare with that of without prominent inflammation. The metastasis is low in cases of medullary carcinoma and ranges from 19-46%. The patient managed with treatment of modified radical mastectomy along with radiotherapy and chemotherapy depending on stage and histopathologic grade. Medullary carcinoma has better survival rate as compared to infiltrating duct carcinoma of not otherwise specified type. The overall 5 year survival rate is approximately 78% for medullary carcinoma. In our case after 38 months of follow-up patient is free of disease.

**Conclusion**

Medullary breast carcinoma is a rare subtype of infiltrating duct carcinoma which has high grade cytological features but has good prognosis as compared to invasive ductal carcinoma. Clinical and histopathological diagnosis plays important role in better management of these patient.
Fig.1- Gross specimen showing single, round, grey white mass with pushing margins in right MRM specimen.

Fig.2- Photomicrograph showing medullary carcinoma having large syncitial growth pattern with moderate pleomorphic, hyperchromatic or vesicular nuclei and lymphocytic infiltration. (H&E stain, 400x).

Fig.3- Photomicrograph showing medullary carcinoma having large syncitial growth pattern with dense lymphoplasmacytic infiltration (H&E stain, 200x).

Fig.4- Photomicrograph showing tumor with peripheral circumscription and heavy lymphocytic infiltration (H&E stain, 100x).

References:


