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Recurrent Mucinous Carcinoma of the Breast: A Case Report

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ABSTRACT

We report a case of recurrent mucinous carcinoma of the breast in a 60 year old female who presented with two separate lumps on the left chest wall for 1 year. She gave the history of left sided mastectomy 15 years ago and hysterectomy 10 years ago. The patient did not seek any medical attention for the lumps since she noticed them a year ago. On examination, there were two lumps larger one measuring 7.5×5 cm and other smaller one measuring 3×2.5 cm. Core needle biopsy showed ductal carcinoma. CT scan was done which showed post-operative status of left side breast cancer with left chest wall mass and metastatic left axillary mass. Ultrasonography of whole abdomen and bony scan was done and no metastasis was seen. She underwent en-bloc excision of the tumor with involved muscle. Histopathology was done from two different centers both revealed Mucinous carcinoma of the breast. She was advised to take adjuvant chemotherapy.

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INTRODUCTION

Mucinous carcinoma of the breast is a rare type of breast carcinoma, which is characterized by high mucin to epithelial ratio. It is defined as a carcinoma containing a large amount of extracellular epithelial mucous enough to be visible grossly, and recognizable microscopically surrounding and within tumor cells. It is also called by other names like colloid, gelatinous, mucus or mucin adenocarcinoma [1]. Mucin of these tumors contain neutral and non-sulfated acids. Generally mucinous carcinoma of the breast is considered to have a favorable prognosis, but if it is intermixed with invasive ductal carcinoma then the prognosis is less favorable.(2) According to mucinous contents it is histologically categorized as, pure mucinous carcinoma, in which more than 90% of the tumor cells are composed by extracellular mucin without other associated subtypes and or as the mixed form which contains an admixture with invasive subtypes [3]. Pure mucinous carcinoma tends to be less aggressive and have a lower frequency of metastasis and a better overall survival rate than do mixed tumors [4]. Biologically mixed mucinous carcinomas are more aggressive and have a tendency of metastasis to the ipsilaterial axillary lymph nodes. Reported prevalence of pure mucinous cancer is 7% in women 75yrs or older and 1% in women less than 35 years old [2]. There is very little documentation about the recurrence of mucinous breast cancer.

On examination, Halstead [5] described a "Swish or Crush Sensation" experienced on palpation of these lesions. Hangensen [6] reported that mucinous carcinoma were remarkably well delimited and some seem to be fluctuant" on physical examination. Mammography may suggest the possibility of Mucinous carcinoma of the breast in elderly patients with some useful signs when it is taken in two standard plans mediolaterial and craniocaudal. The mass is oval or lobulated, its margins are circumscribed or microlobulated for pure variety but indistinct for mixed variety [7]. Microcalcification is not a feature of mucinous carcinoma however as carcinoma in situ may co-exist with mucinous carcinoma ,the combination of a mass and micro calcifications may be seen [2]. Sonology should raise suspicion of mucinous carcinoma if it shows the presence of cystic components in a mass, or a complex mass, with vascularity and distal acoustic enhancement in an older patient. Usually the mass is homogenous either isoechoic (pure variety) or hypoechoic (mixed variety) to the subcutaneous fat. Axillary lymph node metastasis, usually a feature of mixed variety is diagnosed when the lymph nodes appear rounded rather than oval (with a long axis to short axis ratio of <1.5, when there is loss of echogenic hilum and when central necrosis is present [7].

The contrast enhanced pattern of dynamic MRI is reported to be useful for differentiation between malignant and benign lesions of the breast. After injection of the gadolinium based contrast agent, mucinous carcinoma shows three different enhancement patterns depending on the solid and mucinous

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components. First, no appreciable enhancement, when mucin is the predominant component. Second, heterogeneous enhancement, corresponding to islands of neoplastic epithelial cells floating in the pool of mucin, and third, rim enhancement corresponding to the peripheral distribution of tumor cells and central location of the mucin [3].

It might be difficult to differentiate fibrocystic change and mucinous carcinoma at fine needle aspiration. Image guided core needle biopsy allows accurate histologic assessment[7]. Mucinous tumors of the breast are usually well differentiated or moderately well differentiated and have few mitotic figures. Regarding hormonal status, mucinous tumors generally have a high proportion of hormone receptor expression, which often confers a better prognosis. Both pure and mixed mucinous carcinomas show similar estrogen and progesterone receptor positive status indicating that both types can benefit from hormonal treatment [3].

Pure mucinous breast carcinoma has a favorable prognosis. Tumor size does not appear to significantly affect survival, perhaps because the large volume of mucin may lead to overestimation of tumor burden. The number of involved axillary lymph nodes is the most important predictor of death from the disease. Usually pure mucinous carcinomas exhibit a rate of metastasis of less than 15% and an overall 10 year survival of almost 100%. As mixed mucinous carcinoma has more invasive histologic characteristics this subtype exhibits more aggressive behavior with a higher metastatic nodal involvement rate and a decreased survival rate [3]. The presence of metastasis in axillary lymph nodes and the size of the tumor at the time of detection are important prognostic factors in the patient with mucinous breast carcinoma. Fatal distant metastasis will develop in a high percentage of patients who have metastasis in axillary lymph nodes at the time of diagnosis [8].

Breast cancer recurs locally in a small number of patients who have received conventional surgical treatment with or without radiation therapy for primary operable tumors. The incidence of local recurrence of 10 years varies from 7-30%. Most often the local recurrence on the chest wall represents one of the several sites of recurrent or metastatic disease. However, in a significant number of patients the chest wall recurrence is the only evidence of recurrent disease [9]. Recurrence depends upon several factors such as tumor size on initial diagnosis larger the size more chances of tumor recurrence. Moderately and poorly differentiated carcinoma has morechances of recurrence than well differentiated carcinoma, lymphoid infiltration is associated with significantly higher recurrence rate, while as proportions of lymphocytes and plasma cells bear no relationship to prognosis, blood vessels invasion (BVI) was associated with high metastatic but is not associated with local recurrence [4].

CASE PRESENTATION

A 60 year old female with no family history of carcinoma of breast presented with 2 large lumps on the anterior chest wall that she noticed 1 year ago. The lumps were painless and slowlyincreasing in size. She gave a past history of appearance of lump in her left breast for which left sided mastectomy was done some 15 years ago documents of which she could not produce. (Fig-I)



Fig 01: Recurrent left breast lump

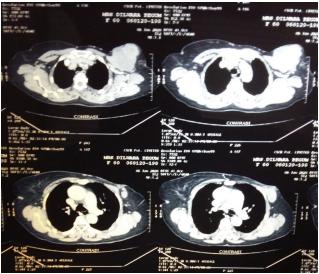


Fig 02: CT scan of the chest: Showing two masses in the left chest wall.

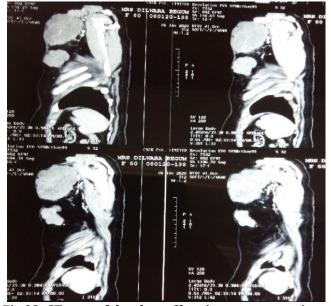


Fig 03: CT scan of the chest: Showing two masses in the left chest wall.

Fig 04: Specimen of the resected tumor masses.

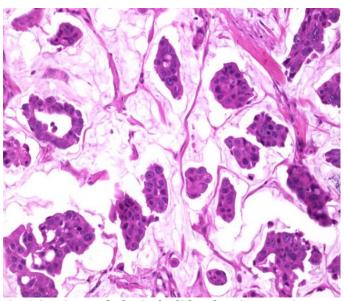


Fig 05: Histopathological slide showing mucinous breast cancer: clumps of tumor cell lie within the pools of mucin.

Lumps were over upper and outer quadrant of left anterior chest wall. Larger one was about 7.5 x5c.m in size about 2.5c.m below the leftclavicle and lateral margin was just crossing the anterior axillary fold. Mass was firm in consistency with irregular margins. The lump was partially attached with the underlying structure but overlying skin was free. Smaller one was 3 x 2.5c.m in size and was just below and lateral to the larger lump. It was also firm in consistency with irregular margins and mobile. A transverse well healed scar which was present over the lump from previous mastectomy was present. Axillary lymph nodes were not palpable. Right breast examination was normal limits. She was moderately anemic on general physical examination but other systemic examination revealed no abnormally. She had no comorbidities.

C.T scan confirmed the physical examination findings that a large spherical soft tissue mass was present in the left axillary region, adherent to the pectoralis major muscle measuring 94mm x 62mm and another lobulated soft tissue mass in the anterolateral chest wall which is also adherent with the chest wall muscles measuring about 57mm x30mm in size. (Fig

02/Fig 03)Fine needle aspiration cytology was performed which revealed ductal carcinoma. Visceral and boney metastasis evaluation was done by ultrasonography of whole abdomen, liver function tests and bone scan, all of which showed no evidence of metastasis.

After correction of anemia by transfusing two units of fresh whole blood and undergoing all pre-anestheticfitnesstests, decision was made to undergo revision surgery. Complete removal of the tumor with overlying skin and underlying muscle was achieved.(Fig 04) Surgery was uneventful, 2 drain tubes were placed in situ, which were removed after 7 days, as the collection was minimal. Stitches were removed after 14 days, there was no wound infection or any other surgical complication except patient developed slight lymphedema of the left arm which eventually subsided. Surgical pathology revealed malignant tumor composed of anaplastic cells in atypical glandular pattern with many mucin lakes containing nest of epithelial cells floating in the mucin. (Fig 05) The tissue was reviewed from another laboratory with similar results. Hence the confirmatory diagnosis of mixed mucinous carcinoma, which was moderately differentiated.ER, PR receptor status were both positive and HER-2 receptor was negative. Patient was referred to oncologist for adjuvant chemotherapy and hormonal therapy (aromatase inhibitor).

DISCUSSION

Mucinous carcinoma of the breast is itself a rare form of breast cancer but has a better prognosis then other variants. Metastasis and recurrence is uncommon due to reason of low cellular burden with abundant mucin which creates a barrier for cells from invading the stroma. Hence recurrence of this variety is in itself a very rare entity.

Elderly patients present with lump which is diagnoses by mammography and core needle biopsy. Other investigations like CT scan, etc. are helpful in diagnosis. On examination the lump is well circumscribed and soft with variable size. Our patient had a mixed mucinous carcinoma with a history of prior mastectomy 15 years ago. Recurrent mucinous carcinoma of the breast patients are good candidates for surgery with adjuvant chemotherapy with or without hormone therapy depending upon the receptor status.

CONCLUSION

Mixed mucinous carcinoma of the breast is subtype of one of the rare varieties of breast cancer, though it has a favorable prognosis and fewer chances of lymph node and distant metastasis, there are always chances of local recurrence. Revision surgery in the form of wide local excision including the involved part of chest wall remains the best possible treatment option.

CONFLICT OF INTEREST

None

REFERENCES

- 1. Alothman S, Saeed S, Khan K, et al. (November 17, 2018) Giant Mucinous carcinoma of the Breast. Cureus 10(11): e3606.DOI 10.7759/cureus.3606.
- 2. YoneyamaF, Tsuchie K, Sakaguchi K: Massive mucinous carcinoma of the breast untreated for 6 years. Int J ClinOncol. 2003, 8:121-123.
- 3. Bitencourt GVA, Graziano L, Osorio ABTC, et al. (July,2016) MRI features of mucinous carcinoma of

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- the breast: Correlation with pathologic findings and other imaging methods. AJR 2016:206:238-246. DOI 10.2214/AJR.15.14851.
- 4. Rosen PP, Saigo PE, Braun DW, et al. Predictors of recurrence in Stage I (T1N0M0) Breast cancer. Ann of Surgery. Jan 1981, Vol. 193:1: 15-25.
- 5. Halstead W.S. A diagnostic sign of gelatinous carcinoma of breast. JAMA 1915; 64: 1653-1654.
- 6. Haagensen CD. Disease of the breast 3rd ed. Philadelphia: Saunders 1986: 798-807.
- Lam WWM, Chu WCW, Tse GM, et al. Sonographic appearance of mucinous carcinoma of the breast. AJR 2004:182:1069-1074.
- 8. Cardenosa G, Doudna C and Eklund GW. Mucinous (Colloid) breast cancer: Clinical and mammographic findings in 10 patients. AJR 1994; 162:1077-1079.
- 9. Moon DH, Maddahi J, Silverman DHS, et al. Accuracy of whole-body fluorine-18-FDG PETR for the detection of recurrent or metastatic breast carcinoma. J Nucl Med 1998; 39:431-435.