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Case Report

Pathology Section

Bilateral Synchronous Breast Carcinoma of Different Histomorphology- A Rare Case Report

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ABSTRACT

Primary bilateral synchronous breast carcinomas are defined as those which have different histomorphological types of cancer in both breast and both appear simultaneously or few months apart. Invasive carcinoma, No Special Subtype (IC-NST) constitutes the most common variant of breast carcinoma. Our case was an elderly lady presenting with bilateral breast lumps and no family history of breast cancer. Histopathology revealed malignancy of both breast with pure mucinous type on one side and invasive carcinoma (NST) on the other side. Primary synchronous breast carcinoma though a rare finding draws our attention to the more important issue of bilateral breast examination in all breast carcinoma cases.

Keywords: FNAC, Invasive carcinoma-NST, Pure mucinous type

CASE REPORT

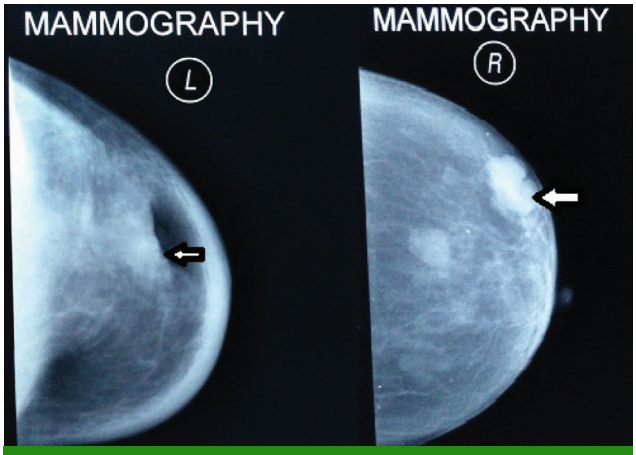
An 84-year-old lady presented to the Surgery OPD with lump in both breast, both of which she noticed almost around the same time a few weeks apart. She was a known hypertensive and diabetic patient with no family history of breast cancer. With her consent, examination was done and right breast revealed a (2X3) cm firm, mobile lump in the inner quadrant central region. Left breast lump, located in inner upper quadrant was (4X5) cm with overlying skin ulceration and nipple retraction. On palpation of axillary region a single mobile lymph node was found measuring (2X1) cm in left axilla.

In Mammography right breast showed a well defined hypoechoic lesion measuring (13X10)mm at 3 O'clock position and left breast showed a heterogenous lesion of (30X25) mm at 10 O'clock position. Both lesions were suspected to be neoplastic radiologically [Table/Fig-1].

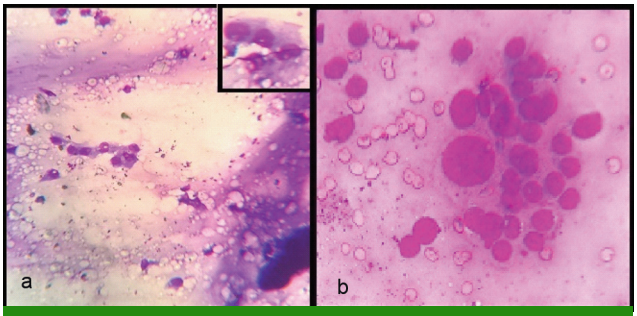
FNAC from right breast lump showed clusters of cells with very mild nuclear atypia and minimal pleomorphism in a background of abundant mucomyxoid material. Features were suggestive of mucinous carcinoma. Left breast lump aspirate showed discrete cell clusters with marked nuclear enlargement and pleomorphism. A provisional diagnosis of ductal carcinoma of left breast was given [Table/Fig-2a,b].

Next all preoperative investigations were done. USG whole abdomen revealed mild hepatomegaly and mild hydronephrotic change in right kidney.

Since, patient was elderly and had comorbid conditions neoadjuvant chemotherapy was withheld and bilateral modified radical mastectomy with axillary lymph node



[Table/Fig-1]: Mammography picture showing a hypoechoic lesion on right side breast and a heterogenous lesion in left breast.



[Table/Fig-2a,b]: Cytological picture. a) malignant cells with back- ground mucin in mucinous carcinoma with inset showing the malignant cells with minimal atypia. b) highly pleomorphic malignant cells in loose cluster suggestive of invasive carcinoma-NST. [MGG, 400X].

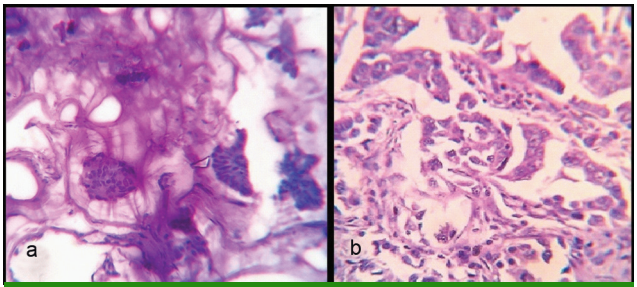
dissection was done.

Both the breast specimen were sent to us for histopathological diagnosis [Table/Fig-3].

Right breast with axillary tail measured (18X17X4)cm. In cut section a lump was found in inner quadrant measuring (2X1.5X1.5)cm. Nine lymph nodes were resected with largest one measuring 1cm across. Left breast with axillary tail measured (18X14X5)cm. Overlying skin containing nipple areola complex was ulcerated. On cut section a mass was noted measuring (5X4X3)cm in the central region. Nine lymph nodes were resected, largest one measuring 1.5cm.

The final histopathogical report was invasive mucinous carcinoma right breast, grade 1 [Table/Fig-4a,b]. All lymph nodes and resection margins were free of tumor. TNM staging was pT1N0Mx. Left breast tumor was reported as invasive carcinoma – no specific subtype, Bloom-Richardson grade 2 [Table/Fig-4a,b] and 8 out of 9 lymph nodes shows tumor deposits. TNM staging was pT4N2Mx. Post operative recovery was uneventful and patient is in follow-up.

[Table/Fig-3]: Gross picture of both breast with left breast showing a (5X4X3)cm solid tumor with necrotic areas and right breast showing a (2X1.5X1.5)cm small tumor.



[Table/Fig-4a,b]: Microscopic picture. a) Mucinous carcinoma showing clusters of cells in the lake of mucin. b) Invasive carcinoma-NST showing nests of highly pleomorphic cells with vesicular nucleus and scanty cytoplasm.[H&E, 400X].

DISCUSSION

Bilateral breast cancers are quite rare inspite of the fact that breast cancer is one of the leading cancer among females throughout the world [1,2]. Synchronous bilateral breast cancers account for only 0.2-2% of all breast cancers [1,2]. Synchronous carcinomas are defined as two or more tumors of different histological type where each are malignant and distinct from each other, and neither can arise due to metastasis from the other [1] . Some consider tumors arising within 6 months to one year interval as synchronous and beyond that as metachronous [1].

Mucinous carcinoma is one of the special type of cancers of breast listed by WHO [3]. It is a rare variety of breast carcinoma with incidence of about 1-6% (higher percentage seen in elderly) [4-7]. The percentage of mucin content to label a carcinoma as pure mucinous type is still under debate, However, a tumor with mucinous component greater than 90% can be safely labeled [3,4]. It is helpful to differentiate these cases from ductal carcinoma as they have excellent prognosis and drastic mutilating surgery is not required for treating them [4-6] The outcome of bilateral breast cancers is however not so favourable [1,2]. Mucinous carcinoma can be divided into pure and mixed subtypes. For practical purposes a carcinoma is considered special type if 90% of the tumor shows special differentiation [3,4,6]. In this case the tumor showed 100% mucinous differentiation so it can be classified as pure mucinous carcinoma.

Mucinous carcinoma usually presents as a soft palpable well defined mass [6]. The radiological features are also quite suggestive. They appear as low density/hypoechoic well defined or microlobulated oval masses [6,8]. Infiltrating margin or calcification when seen points towards a mixed carcinoma with non-mucinous components [8].

Histopathological examination shows clusters of tumor cells floating in a sea of mucin [9]. Mucin is entirely extracellular [Table/Fig-4a,b]. Mucinous carcinomas are ER and PR positive and negative for HER 2 over expression [6,9].

In most of the studies done in cases of breast carcinoma primary synchronous carcinoma comprised very few in number and most common variety was invasive carcinoma-not otherwise specified [10].

Prognosis of mucinous carcinoma differ very little from age matched individuals of general population. Therefore, it has very good prognosis as compared to ductal carcinoma [6]. However, prognosis of bilateral synchronous carcinoma is much worse than unilateral or metachronous carcinoma. Regarding treatment of bilateral synchronous carcinoma there has been no general consensus. Mostly bilateral modified radical mastectomy is done with neo adjuvant chemotherapy or else each side is treated as individual isolated tumors and then treated as per stage of the tumor.

CONCLUSION

Pure mucinous carcinoma is by itself quite an infrequent

variant of breast carcinoma. Its presentation as bilateral synchronous breast carcinoma along with invasive ductal carcinoma makes this case a singular one in terms of occurrence.

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