



Research Paper

Secretory Carcinoma of the Breast: A Case Report of Very Rare Malignant Tumour with Good Prognosis and a Review of the Literature

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Received 25 August, 2022; Revised 06 Sep., 2022; Accepted 09 Sep., 2022 © The author(s) 2022.

Published with open access at www.questjournals.org

I. Introduction

The histopathological entity that was first described by McDivitt and Stewart (1), secretory carcinoma of the breast is a very rare histological type seen in less than 1% invasive breast cancers (2). It is identified by its distinct histomorphology and usually is associated with a favorable prognosis (3).

It has a favorable diagnosis, despite having tripple negative molecular phenotype (4). Although it is seen in children and adult, it has also been reported in elderly patients (5).

II. Case Presentation

A 36years old female reported in the hospital on account of a mass in the left breast of two weeks duration. Examination of the breast revealed an ulcerated mass at 3 o'clock of the left breast measuring 10 by 9.0cm, fixed to the skin and underlying structure, mildly tender with positive axillary lymphadenopathy. A trucut- biopsy was done with a surgical pathology report of invasive ductal carcinoma, no specific type, grade 1.

On account of this left breast mastectomy was done with surgical report of secretory variant of invasive ductal carcinoma.

Macroscopic, the gross mastectomy sample was received in formalin, measuring 13x11x6cm. There was a constricted ulcer beside the nipple measuring 3 by 1cm. Cut sections of the mass show an irregular mass from the nipple, extending deep to the posterior margin and covering 1/3 of the breast tissue. There were extensive areas of necrosis with milky substance exuding from some ducts.

Histological section of the breast tissue show partially circumscribed cohesive sheets of cysts, micro cysts and tubular patterns lined by bland uniform nuclei with little or no mitotic index. The tumor cells have vacuolated, foamy cytoplasm with intracellular and extracellular pale/pink secretions.

The nuclei are small, round to oval with no nucleoli and areas of stromal infiltration. There was focal ulceration of the epidermis with lympho-plasmocytic infiltrates. Then tumor cells are present in the posterior and lateral resection margins (Fig 1)

Also received in formalin were two pieces of soft fatty tissues measuring 4 by 3 by 1 cm and 6 by 4 by 3 cm respectively and labeled as axillary lymph-nodes. The histologic sections show lymphoid follicles infiltrated with tumor cells as seen in the mass breast.

Immunohistochemistry with S-100 show focal deep positivity of the tumor cells, (Fig. 2). Immunostaining for ER, PR and HER2 were negative. (Fig. 3, 4, 5 respectively).

Based on the histomorphologic and immunohistochemical features the diagnosis of secretory carcinoma was made.

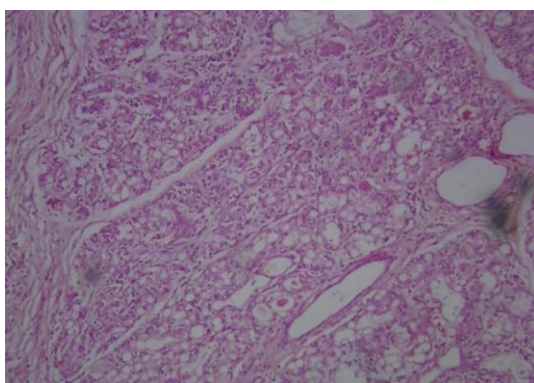


Fig.1H&E X10. Histological section of the breast tissue show partially circumscribed cohesive sheets of cysts, micro cysts and tubular patterns lined by bland uniform nuclei with little or no mitotic index. The tumor cells have vacuolated, foamy cytoplasm with intracellular and extracellular pale/pink secretions. The nuclei are small, round to oval with no nucleoli and areas of stromal infiltration.

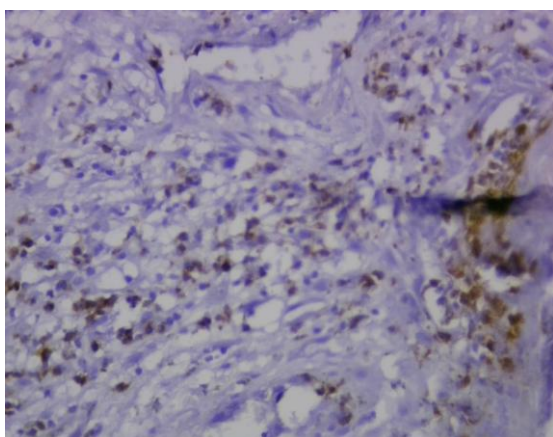


Fig. 2 S100X400 show focal deep positivity.

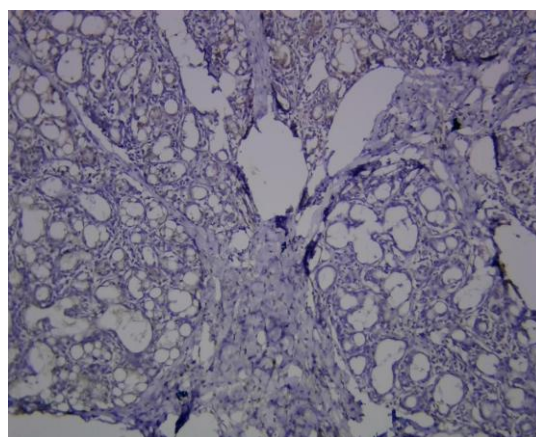


Fig. 3 HER 2X10 show negative staining

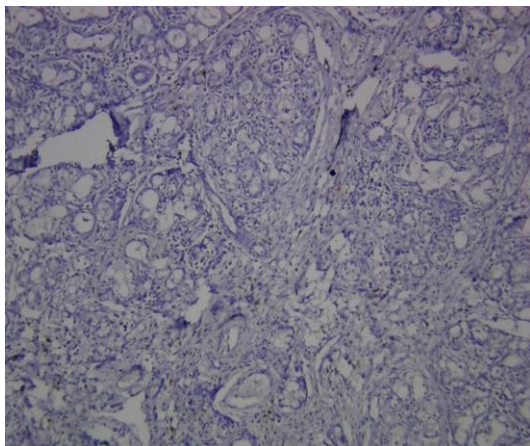


Fig. 4 PRX4 show negative staining

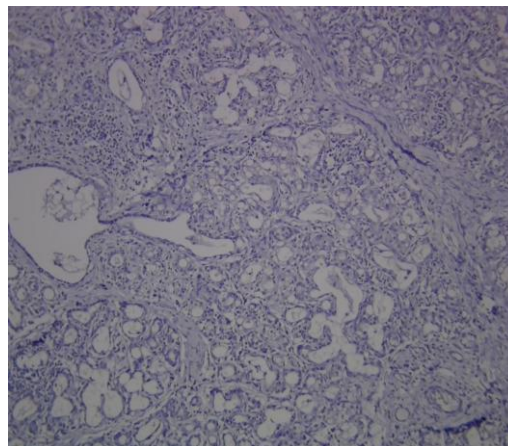


Fig. 5 ER X10 show negative staining.

III. Discussion

Secretary carcinoma of the breast is a very rare type of breast carcinoma. The age of presentation varies from 3 to 87 years old with a mean and median age of presentation of 33 and 40 years respectively (6). The age of presentation of the index case was 36years. It tends to occur more in the female than male with a reported male to female rates of 1:6 (7), with better prognosis in the female (8). The index case was a female patient.

The clinical presentation is that of a solitary growing, painless well circumscribed, mobile, palpable mass (9). Axillary lymph-node metastasis is uncommon, especially of tumors are <2cm. The index case presented with mildly tender mass measuring 13 by 11 by 6mm with ipsilateral axillary lymphadenopathy. The penchant for patients in the environment for presenting late to the hospital may be responsible for the axillary lymph node metastasis. The tumor was already big and involving 2 lymph-nodes. In occasional case in which lymph-node metastasis occur it rarely involves more than 3 lymph nodes (2).

The characteristic ETV6-NTRK3 molecular alteration leading to a stable chimeric tyrosinase fusion product was recently demonstrated has been responsible for its development (10)

Imaging techniques are non-specific and not diagnostic of the carcinoma. Mammography usually reveals a discrete tumor with smooth or irregular borders (11)

Immunohistochemistry shows the secretary carcinoma to be a triple negative tumor (ER, PR, HER2 negative). Though it is known that triple-negative phenotypes behave aggressively, the tumor's prognosis is highly favorable (1, 2). The risk of developing systemic metastasis is extremely low (1,2)

Surgery is considered the mainstay of treatment of secretary carcinoma; however due to scarcity of reported cases no published guidelines management exists (3)

IV. Conclusion

Secretary carcinoma of the breast is an indolent and very rare malignant tumor of the breast with triple negative immunohistochemical staining. We present a 36yrs old female patient with late presentation. The primary treatment option for secretary carcinoma is surgery and a good knowledge of its histological presentation is important to guide against mis-diagnosis.

Conflict of interest

No conflict of interest

Informed consent

Within informed consent was obtained from patient

Financial disburse

The authors declared that this study has reserved no financial support.

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