Scholars Journal of Applied Medical Sciences (SJAMS)
Abbreviated Key Title: Sch. J. App. Med. Sci.
ISSN 2320-6691 (Online)
ISSN 2347-954X (Print)

A Unit of Scholars Academic and Scientific Society, India
www.saspublishers.com

Oncology

Primary Mucinous Cystadenocarcinoma of Breast: A Rare Case Report

Kanwardeep Kaur Tiwana*, Manmeet Kaur[1], Sarita Nibhoria[2], Nisha Singla[3]
[1]Associate Professor, GGSMC&H, Faridkot, India
[2]Professor, GGSMC&H, Faridkot, India
[3]Junior Resident, GGSMC&H, Faridkot, India

Case Report

***Corresponding author**
Kanwardeep Kaur Tiwana

Article History
Received: 02.01.2018
Accepted: 11.01.2018
Published: 30.01.2018

DOI:
10.36347/sjams.2018.v06i01.014

Abstract: The primary mucinous cystadenocarcinoma of the breast is an extremely rare and primary malignancy of breast. It was first described by Koenig and Tavassoli in 1998. It is defined as carcinoma composed of generally tall columnar cells with basally located nuclei and abundant intracytoplasmic mucin. The tumor bears a striking resemblance to mucinous cystadenocarcinoma of the ovary, pancreas and appendix. Immunohistochemical findings suggest that they may develop independently of estrogenic stimulation. Although the nature of mucinous cystadenocarcinoma breast is invasive, patient prognosis appears to be good despite lymph node metastasis.
Keywords: Mucinous cystadenocarcinoma, Breast, Rare, Mucin, Cystic spaces.

INTRODUCTION

Mucin producing carcinomas of breast are variety of carcinomas characterised by production of extracellular and intracellular mucin. The various variants of mucin producing carcinomas are: mucinous (colloid) carcinoma, mucinous cystadenocarcinoma, columnar cell mucinous carcinoma, and signet ring cell carcinoma [1].

The primary mucinous cystadenocarcinoma of the breast is an extremely rare neoplasm. The most common sites are ovary, pancreas and appendix [2]. There were only 4 recorded cases before 2003 when the third edition of WHO classification was published [1].

It may be misinterpreted as a benign lesion because the small biopsy specimens may only consist of tumor cells with bland nuclei [3].

Clinically, it is found in the postmenopausal women and present as a relatively large, cystic mass with a favourable prognosis. Microscopically there are present multiple cystic spaces lined by tall columnar cells with an abundance of intracellular and extracellular mucin, while part of tumor cells which presented with mild atypia displayed papillary structures and some exfoliated micropapillae floating in the mucinous lakes [4].

CASE REPORT

A 45year old postmenopausal woman presented to surgery OPD with a painless, lump in the right breast. The lump was progressively increasing in size and caused mild discomfort to the patient. On physical examination a 2x 2 cm, well-defined, firm, non-tender, lump was detected in the right breast. Breast ultrasonography shows a well circumscribed and lobulated cystic solid mass measuring 2x1x2cm.

A modified radical mastectomy was planned and the specimen was sent to pathology department for histopathological examination.

We received a mastectomy specimen with nipple and areola measuring 12x10x6cm. Cut section showed a grey white firm growth along with cystic mucinous areas measuring 1.5x1x1cm (Figure 1). 12 lymph nodes were identified ranging in size from 0.2 to 0.5cm. On microscopy, sections from the breast revealed dilated mucin filled cystic spaces lined by tall columnar cells with abundant intra and extra cytoplasmic mucin, basally located nuclei and inconspicuous nucleoli suggesting the possibility of Mucinous Cystadenocarcinoma Breast (Figure 2). Lymph nodes were free from tumor.

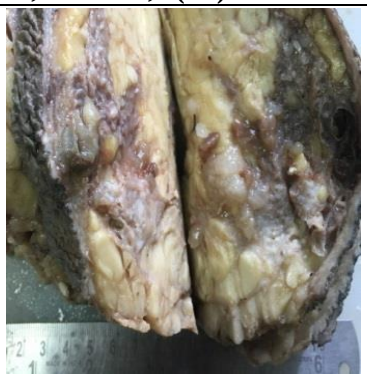

Fig-1: Gross Examination

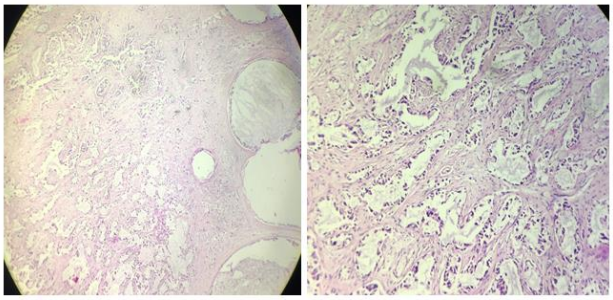

Fig-2: Microscopic Examination

DISCUSSION

The primary mucinous cystadenocarcinoma of the breast is an extremely rare entity. There were only 4 recorded cases before 2003 when the third edition of the WHO classification was published, and based on these reports, the tumor was thought to have similar clinical features as the common infiltrating ductal carcinoma [1].

It comes under the broad umbrella of mucinous carcinomas of the breast. Only mucinous cystadenocarcinomas produce intracellular as well as extracellular mucin; mucinous carcinomas produce extracellular mucin whereas columnar cell mucinous carcinoma and signet ring cell carcinoma produce only intracellular mucin [5].

Because of the rarity of mammary mucinous cystadenocarcinomas, the diagnosis has to be made cautiously. Thus metastasis from distant organs should be initially considered. The usual immunoprofiles to rule out metastasis from distant MCA are following: CK7 positive, CK20 negative, and CDX-2 negative. These results can help to exclude the possibility of metastatic mucinous cystadenocarcinomas from the ovary, pancreas, and gastrointestinal tract. Being MUC5 positive and MUC2 negative may be the unique characteristics of MCA in the breast, together with the immunoprofiles of being CK7 positive, CK20 negative, CDX-2 negative, ER negative, and PR negative[6].

Although breast mucinous cystadenocarcinomas tend to show high proliferative activity, the prognosis is generally favorable, even with large size tumors. Axillary lymph node metastasis occurs in approx. 20% of patients, but unlike invasive ductal carcinoma, lymph node metastasis is not associated with a poor prognosis in breast mucinous cystadenocarcinomas [7].

CONCLUSION

Primary breast mucinous cystadenocarcinoma usually displays unique pathologic and immunohistochemical characteristics simulating its pancreatic and ovarian counterparts; it seems to have a good prognosis after complete resection.

REFERENCES

1. Tavassoli FA, Devilee P, editors. Pathology and genetics of tumours of the breast and female genital organs. Iarc; 2003.
2. Rosen PP, Scott M. Cystic hypersecretory duct carcinoma of the breast. Am J Surg Pathol 1984; 8: 31-41.
3. Chen WY, Chen CS, Chen HC, Hung YJ, Chu JS. Mucinous cystadenocarcinoma of the breast coexisting with infiltrating ductal carcinoma. Pathology international 2004;54:781–6.
4. Kong J, Wang H, Zhang Q, Lin Z, Guan H. Primary mucinous cystadenocarcinoma of the breast coexisting with invasive ductal carcinoma: a case report and review of the literature. Int J Clin Exp Med 2017;10(4):7256-60.
5. Z Nisa, N Barman, S Dasgupta, M Pal, R Sarkar. Mucinous cystadenocarcinoma of the breast. Journal of Diagnostic Pathology 2015; 10(1):34-7.
6. Kim SE, SoonWon Hong J, Koo Joon Jeong JS, Jung WH. Primary Mucinous Cystadenocarcinoma

of the Breast: Cytologic Finding and Expression of MUC5 Are Different from Mucinous Carcinoma. Korean J Pathol 2012; 46: 611-6.

7. Honma N, Sakamoto G, Ikenaga M, Kuroiwa K, Younes M, Takubo K. Mucinous cystadenocarcinoma of the breast: a case report and review of the literature. Arch Pathol Lab Med. 2003 Aug;127(8):1031-3.