Cytodiagnosis of bilateral duct carcinoma breast : a rare case report

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Abstract

Accurate diagnosis of breast lesions depends on a triple assessment approach comprising clinical, imaging and pathologic examinations. Fine needle aspiration cytology (FNAC) is widely adopted for the pathologic assessment because of its accuracy and ease of use. We present a rare case of a 45 year old female who presented with a history of breast lump since 2 months on right side and on left side since 1 month. There was positive family history. The patient was diagnosed with carcinoma breast on fine needle aspiration cytology. FNAC of both lesions revealed duct cell carcinoma in both breasts. The recognized aggressive course and rapid progression of bilateral synchronous tumors was apparent in our patient. This case illustrates the importance of screening for metastatic disease in patients presenting with bilateral breast lumps.

Introduction

All breast lesions are not malignant, and all the benign lesions do not progress to cancer; however the accuracy of diagnosis can be increased by a combination of preoperative tests (like physical examination, mammography, fine-needle aspiration cytology, and core needle biopsy). These modalities are more accurate, reliable, and acceptable when compared with a single adopted diagnostic procedure despite of having their own technical limitations [1, 2].

"Fine-needle aspiration (FNA) cytology is an established and highly accurate method for diagnosing breast lesions." If FNA cytology is followed by an excisional biopsy

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for confirmation, it would seem that the cost of diagnostic workup would be increased, but it has been seen that FNA cytology is cost effective even when followed by an excisional or frozen section biopsy for confirmation [3, 4].

A second primary breast cancer in the opposite breast can be either synchronous or metachronous. The majority are metachronous [5]. Bilateral synchronous breast cancer accounts for 0.2–2% of all breast cancers [6]. Breast cancer is usually associated with local and lymphatic spread and with blood–born spread to lungs, bones and liver.

Case report– A 45 year old female presented with a history of breast lump since 2 months on right side and on left side since 1 month in surgical outdoor department of M. B. S. Government Hospital, Kota Rajasthan. There was positive family history. Her mother was diagnosed with breast cancer of right side. There were no other complaints like weight loss, fever or loss of appetite.

Clinical examination of the right breast revealed a hard lump in the upper outer quadrant of size 12 x 10 cm that was fixed to the underlying structures. The overlying skin of the breast along with nipple and areola were involved with peaud´s orange skin.

On left side of breast a hard lump of 3 x 2 cm in size. Routine blood tests were within normal limits including chest X–ray. No axillary nodes were palpated. No sonography, mammogram or echography was done.

Discussion

Bilateral breast cancer is defined as synchronous when contralateral cancer is identified within 6 months after the first breast cancer [1]. Contralateral breast cancer, diagnosed with the interval of more than 6 months, is defined as metachronous bilateral breast cancer. Bilateral breast cancer has an overall incidence of 4-20% in patients with primary operable breast cancer [7]. A second primary breast cancer in the opposite breast can be either synchronous or metachronous. The majority are metachronous [5]. Bilateral synchronous breast cancer accounts for 0.2-2% of all breast cancers [6].

Fine-needle aspiration cytology is widely used in the diagnosis of breast cancer because it is an excellent, safe, and cost-effective diagnostic procedure. One can get on site immediate report with minimal cost using inexpensive equipments and a simple technique. The most significant advantage of FNAC is the high degree of accuracy, rapid

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results, and a less invasive procedure than a tissue biopsy. FNAC of the breast can reduce the number of open breast biopsies [8–11].

Bilateral synchronous breast cancer is an uncommon finding in women presenting with multiple breast lumps. It is reported to account for approximately 1% to 2% of women with breast cancer whereas metachronous breast tumors account for 5% to 6% of cancer cases [12]. Although its etiology is not well understood, however it appears that this familial link is more likely with metachronous bilateral breast cancer than either unilateral or synchronous bilateral cases. Furthermore, the risk of having breast cancer is substantially increased with a first–degree relative with bilateral breast cancer [13]. Such lower disease free survival and high rates of distant metastasis is a recognized feature of bilateral synchronous tumors, which therefore have a worse overall survival compared to unilateral tumors [12]. However, there does not appear to be any difference in survival if synchronous tumors are compared to the metachronous ones. The gradual increase in the incidence of synchronous disease during the 1970s coincides with the introduction of routine and bilateral mammography as part of the diagnostic work-up in women with unilateral cancer [14]. Bilateral cancers are detected early by preclinical work–up, and classified as synchronous disease rather than diagnosed later as metachronous disease [14]. Synchronous breast cancer has a poorer prognosis than metachronous or unilateral breast cancer [15].

Conclusion

The cytological examination of breast lesions prior to surgical treatment serves as a rapid, economical, and valuable diagnostic tool. Adhering to the principle of “Triple test,” and acquisition of technical, observational, and interpretative skills will further enhance the diagnostic accuracy of proliferative conditions with atypia or suspicious lesions of breast.

It is important to assess each patient’s risk of developing contra lateral breast cancer. The prognosis for the woman with a second primary breast cancer is quite favorable and is dependent on the stage of both the first and the second cancer.

In conclusion we note that in women, who present with bilateral breast lumps, synchronous tumors should be considered as

a possibility of malignancy and investigate for distant metastasis at presentation should be routine even in those who are asymptomatic. It is relatively a rare neoplasm. Only few cases have been reported in the literature. Further study is recommended.

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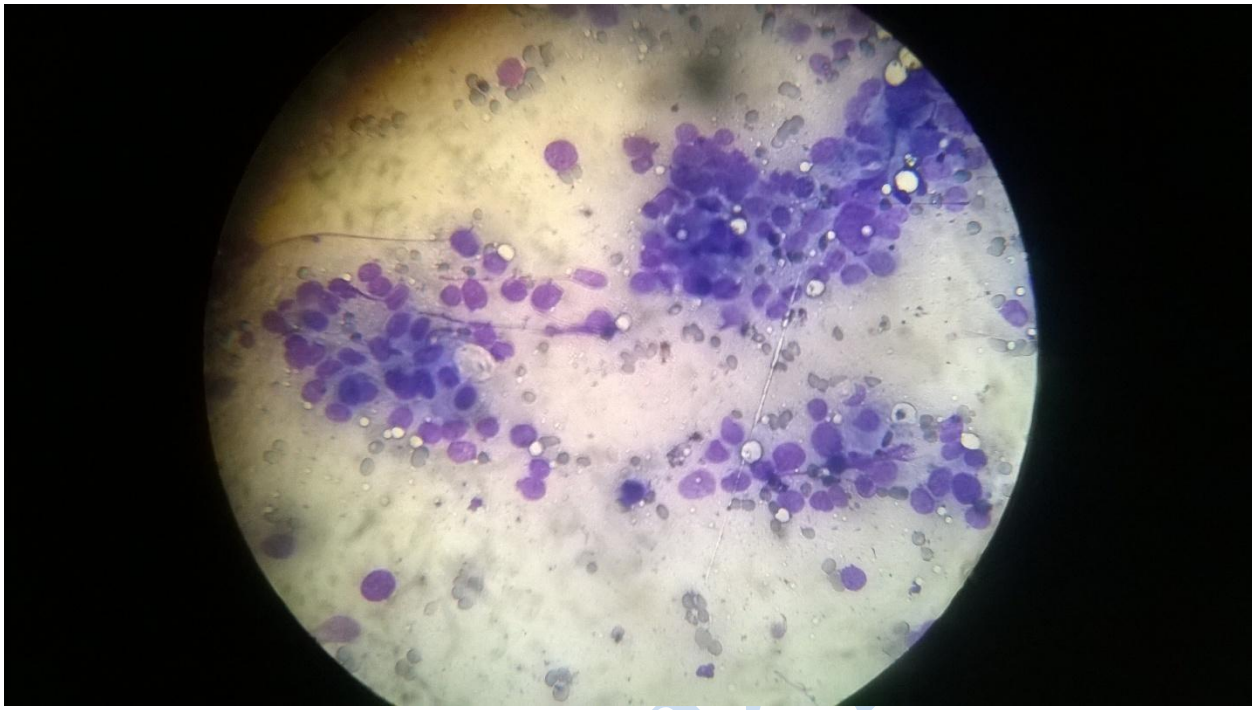

40x Right side breast- Clustered and single malignant epithelial cells, mild nuclear enlargement and atypia; absence of bipolar nuclei.

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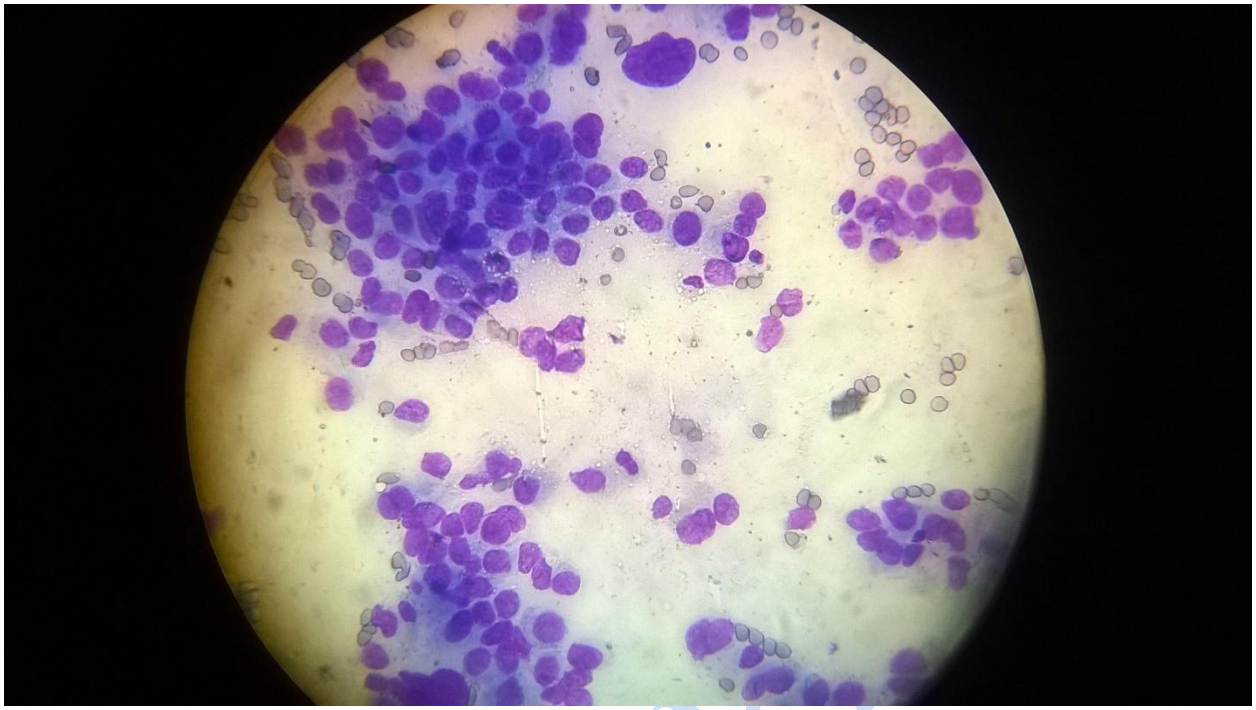

40x Left breast- Poorly cohesive malignant cells, single and in clusters; obvious nuclear enlargement and pleomorphism; irregular chromatin.

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