Preoperative cytological diagnosis of mucinous carcinoma (MC) of male breast

Sir,

Male breast cancer accounts for less than 1% of all cancers in men and less than 1% of breast cancers. The most frequent type is invasive ductal carcinoma (IDC), however, the occurrence of mucinous carcinoma (MC) (Gelatinous/Colloid) is extremely rare in the male breast with very few reports on cytodiagnosis.

We report a case of MC diagnosed preoperatively on the basis of cytology findings. A 60-year-old male with slowly enlarging, subareolar lump in left breast was referred for fine needle aspiration cytology (FNAC) presuming it to be gynecomastia. He had no other complaints, no history of any major illness in the past. The breast swelling was 1 cm × 1 cm, well-defined, mobile and firm in consistency. Cytology smears revealed moderate cellularity in the background of abundant mucinous material and chicken wire-like blood vessels [Figure 1a]. The cells were seen in groups, dispersed individually, showed moderate cytoplasm, large, round to oval eccentric nuclei with regular nuclear membrane, granular chromatin and one to two prominent nucleoli [Figure 1b]. Cytodiagnosis of MC was offered. Preoperative mammography and sonography revealed lobulated, hyperechoic mass in the central part of the left breast. On extensive clinical and radiological study, no mass lesion was found at any other body site. The patient’s modified radical mastectomy specimen showed a subareolar glistening white, firm tumor, of size 1.5 cm × 1.5 cm, along with six subcentimetric lymph nodes and axillary fat. Histopathology sections revealed malignant cells arranged in groups and cords within pools of mucin. Lymph nodes did not show evidence of metastasis. The diagnosis of primary MC of the breast was confirmed.

Depending upon the amount of mucin and cell type, MC can be of pure type or mixed type with concomitant presence of mucinous and other (IDC) element. The prognosis of pure MC is much better than for a mixed one.

Male breast cancers are more likely to be high grade with retained expression of estrogen receptor (ER) and progesterone receptor (PR) and less likely to overexpress Erb-B2 and p53. Standard treatment for male breast cancer is modified radical mastectomy with sentinel lymph node biopsy followed by tamoxifen for endocrine-responsive positive disease.

It is most important to differentiate between primary MC from secondary MC coming from internal organs in the male breast. Clinical, cytohistomorphological, radiological findings, and immunohistochemistry are of immense help in this differentiation.

To conclude, as diagnostic cytological features remain similar for MC occurring in male or female breast, reliable preoperative cytological diagnosis is possible.

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Conflicts of interest
There are no conflicts of interest.

Prajita Suresh Pawar, Sandhya V. Poflee, Nandu P. Pande, Anuradha V. Shrikhande
Department of Pathology, Indira Gandhi Government Medical College, Nagpur, Maharashtra, India

Address for correspondence: Dr. Prajita Suresh Pawar, Flat No. 411, Honey Archara Complex, Untakhana Road, Nagpur - 440 009, Maharashtra, India. E-mail: pawarprajita@ymail.com

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