

Intracystic Papillary Carcinoma in Male Breast with High Nuclear Grade: A Case Report

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ABSTRACT

Intracystic papillary carcinoma (IPC) in men is an extremely rare disease that accounts for less than 1% of all malignancies with only a few case presentations published so far. This report presents a case of 53-year-old male, who presented a painless swelling of his left breast. The left breast mass was 6 cm maximally and was found to be non-invasive IPC. The tumour is consistently positive for GCDFP-15, ER or PR and negative for HER-2. It consists of predominantly fibrovascular stroma lined by monotonous epithelial cells retaining intermediate to high histological grade with a high nuclear cytoplasmic ratio. In addition, increased numbers of mitotic figures were also seen. Chest X-ray, liver ultrasound and bone centigram showed no evidence of distant metastases. In short, this is the first case report from Saudi Arabia of a male having IPC, with increased number of mitotic figures and high nuclear grades.

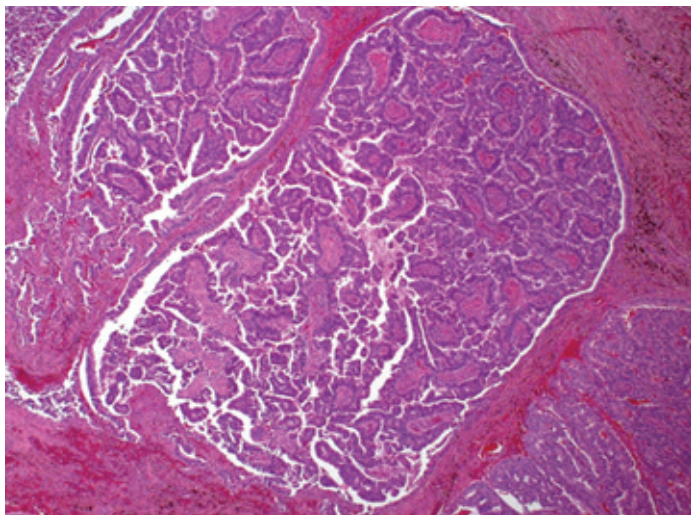
Keywords: Histopathology, IPC, Male, Mitotic figures

CASE REPORT

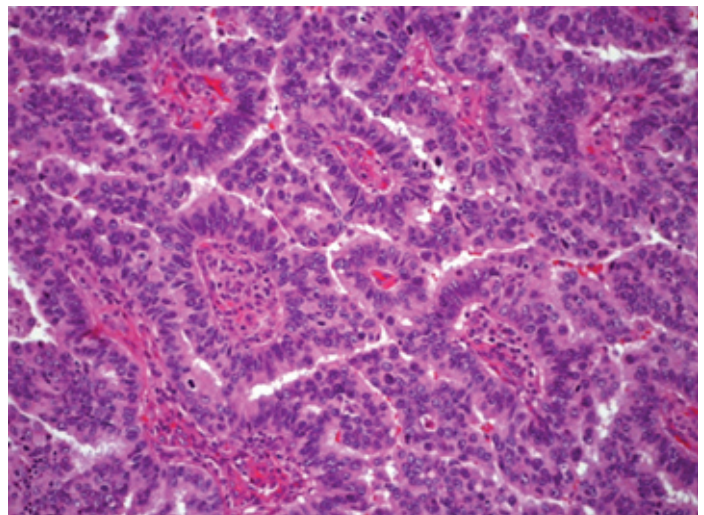
A 53-year-old Egyptian male was reported in March 2012 in the surgical unit at a private hospital in the Riyadh region with left breast mass. On physical examination, left breast mass was measured about 6 centimeters in maximum dimension without any involvement of skin tissues, and both axillary lymph nodes were not palpable. The mammogram confirms the presence of retroareolar left breast mass measuring up to 6 centimeters in maximum dimension. Systemic survey (chest X-ray, liver ultrasound and bone centigram) showed no evidence of distant metastases. After performing borderline lesion cytological examination and examination of tissues biopsy, patient subsequently underwent for lumpectomy of the left breast mass.

Macroscopical examination of lumpectomy specimen showed that fibrofatty tissue was of 9x7x6 cm. Cut surface showed a well-circumscribed friable granular mass and was found to be 7x6x5 cm. Random sections were taken for histopathological examination. Haematoxylin and Eosin (H&E) slides showed IPC was non-invasive subtype. The tumour consists of predominantly fibrovascular stroma lined by monotonous epithelial cells retaining intermediate to high histological grade with a high nuclear cytoplasmic ratio and distortion of polarity [Table/Fig-1,2]. In addition, increased number of mitotic figures were also seen [Table/Fig-2].

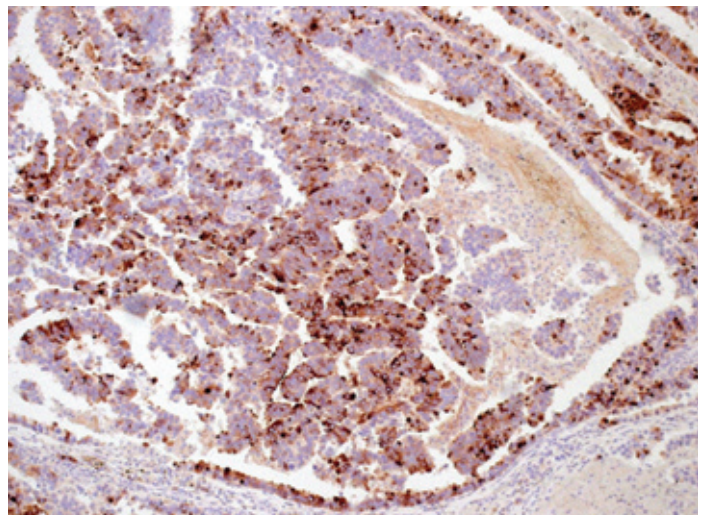
Immunohistochemical staining data showed positive reactivity of neoplastic cells with GCDFP-15 [Table/Fig-3], ER and PR. In contrast with these, negative reactivity of neoplastic cells was observed with Her-2. A diagnosis of IPC of the male breast with a positive margin



[Table/Fig-1]: Intracystic papillary carcinoma. Low and medium magnification showing fibrovascular stroma lined by monotonous epithelial cells



[Table/Fig-2]: Mitotic figures index. Medium to high magnification showing increased number of mitotic figures and high histologic grades



[Table/Fig-3]: GCDFP-15 stain. Medium magnification showing positive cytoplasmic staining in the tumour cells

was established. Therefore, the patient subsequently underwent for modified radical mastectomy of the left breast with a complete dissection of the lymph nodes in the left axilla, which revealed no residual tumour or positive lymph nodes. After that the patient was referred to King Faisal Specialist Hospital and Research Center for consultation. Now the patient remains well for 24 months without tumour recurrence or metastasis.

DISCUSSION

This is the first report from Saudi Arabia to the best of my knowledge that shows a male having intracystic papillary breast carcinoma with increased number of mitotic figures and high nuclear grades. IPC of the male breast is a rare neoplastic phenomenon especially in Saudi Arabia. On account of IPC growth and clinical behaviour, it is regarded as a variant of intraductal papillary carcinoma [1]. It is also reported by some investigators that myoepithelial cells (MEC) around IPC are paucity or complete absence [2,3]. These findings clearly suggested that this type of tumour is invasive [4,5]. Moreover, few investigators have shown positivity for collagen IV, a basement membrane component around the IPC and have concluded that IPC is intraductal [6]. Now prognosis of IPC well defined [7,8], but its classification, behaviour and management remain an issue of argue [9]. This is the first case report from Saudi Arabia on IPC male breast that shows a non-invasive type with favourable prognosis. The clinical presentation of the case, patient age and the site of the tumour in this report were compatible with the most previously reported cases [10-13]. Histologically, IPC is well defined that shows predominant finger-like papillae along with some tubular or adenomatoid areas [14]. Analysis of IPC is sometime becomes difficult because of the zones of fibrosis, hemorrhage and chronic inflammation near the tumour. Therefore, thorough sampling and careful assessment of suspicious foci is very important for the diagnosis of invasion [14]. The optimal treatment, adequate surgical excision with negative margins is mandatory [15]. It is reported that the prognosis of papillary carcinoma depends on the presence or absence of invasion. Axillary lymph node metastasis frequency depends on the size of the invasive component and on the histological grade [13-15]. It is also important to be pointed out that the role of sentinel lymph node biopsy has not been evaluated in IPC but it may be an excellent alternative to full axillary dissection in these patients. Despite the power of modern approaches and persistent investigative efforts, the role of radiation therapy in these types of IPC patients with remains undefined; therefore it is important to treat these types of IPC patients on the basis of their associated pathology. In general, prognosis of pure IPC is well defined because of the low malignant potential and slow proliferative activity.

CONCLUSION

Intracystic papillary breast carcinoma is extremely rare in males with a favourable prognosis. Clinically it presents as benign looking cystic lesion. Patient was well for 24 months without tumour recurrence or metastasis. This tumour is consistently positive for GCDFFP-15, ER or PR and negative for HER2. Lymph node involvement is extremely rare in patients with pure IPC, but sentinel lymph node biopsy should be considered in the light of the debated nature of this lesion.

LIST OF ABBREVIATIONS

IPC, intracystic papillary carcinoma; MEC, myoepithelial cells; GCDFFP-15, Gross cystic disease fluid protein -15; ER, estrogen

receptor; PR, progesterone receptor; HER2, human epidermal growth factor receptor 2; (H and E), Haematoxylin and Eosin slides.

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CONSENT

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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