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Invasive Papillary Carcinoma of Male Breast, A Rare Entity Diagnosed on Mammotome Biopsy

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Case report

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INTRODUCTION

Breast cancer in men is rare. Invasive papillary carcinoma of breast is uncommon entity accounting for 5-7.5% of all male breast cancer^[1-2]. One of the characteristic features in histology of invasive papillary carcinoma is a fibrovascular frond of papillary tumour having a thick fibrotic wall. Usually there is no myoepithelial cell layer within the papillae. Areas of invasion into stroma and lymphovascular space might be seen^[3-6]. We report this case as despite its invasive nature the prognosis was good.

CASE REPORT

A 45 year old man presented with gynae comastia of left breast for 5 months. There were no other constitutional symptoms or family history of malignancy. Clinically there was an ill-defined lump in the left breast with skin induration (**Figure 1**). There were no palpable lymph nodes in the axilla or supraclavicular fossa. Mammography showed dense breast only (**Figure 2**). Ultra sound revealed a complex solid cystic mass with indistinct margins with no obvious internal vascularity (**Figure 3**). The previous FNAC and CNB were inconclusive in this patient. So vacuum assisted breast biopsy (VAB) was performed with Mammotome (Ethicon Endo surgery, Cincinnati, Ohio, USA) directional vacuum assisted breast biopsy device. The procedures performed with 11 G handheld vacuum probe. As the patient had complex solid cystic mass probably because of the fact that the tumor contained large necrotic, cystic and hemorrhagic areas. VAB was found useful because it sucked out the fluid initially and prevents obscuring of the mass. After collapse of the cystic component, contiguous samples could be obtained from the solid part of the lesion. So vacuum are used for suction of fluid. and also helps to quantify the solid component thus increase the accuracy of VAB. Histopathology showed papillary cluster of tumour cells and on high magnification was suggestive of papillary adenocarcinoma (**Figures 4,5**). He then underwent left simple mastectomy and level II axillary clearance. Histopathology confirmed the mass as papillary adenocarcinoma and that surgical margins were free. On immunohistochemical analysis the tumour cells were strongly positive for estrogen and progesterone receptors and was negative for her 2/neu.

DISCUSSION

Less than 1% of all cancers in men are breast cancers. Men who are affected are older than females and they usually present at an advance stage with less favorable prognosis^[7,8]. Most of the breast cancer in men is invasive carcinoma. Only less than 10% are non-invasive^[8].

Men most commonly present with unilateral painless mass and nipple retraction. On mammography the lesions appear as non-calcified radiopaque mass with irregular shape and speculated or indistinct margins^[9]. Mathew et al suggested that

punctuate calcification in mammography and circumscribed masses in sonography can be associated with breast cancer in men.

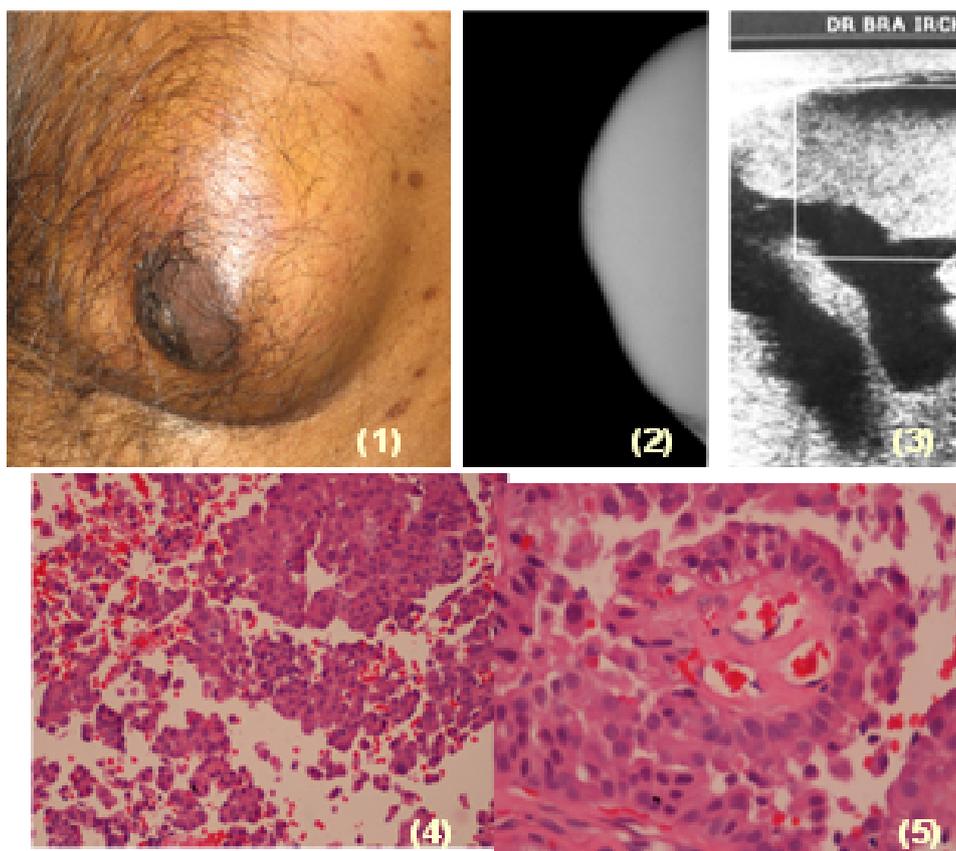


Figure: IDC (Papillary adenocarcinoma). (1) 45 year old man gynecomastia of left breast and skin induration. (2) Mammogram shows dense breast only. (3) USG shows complex solid cystic mass with indistinct margins. No internal Vascularity. Previous FNAC and CNB results were inconclusive. Microphotographs of VAB show. (4) Papillary clusters of tumour cells (H&E X100). (5) High magnification of the same show cross section of papilla suggestive of papillary adenocarcinoma(H&E X 400).

Directional vacuum assisted breast biopsy is a modified and improved technique of large core breast biopsy which was introduced in 1996^[10]. It allows faster acquisition of contiguous, multiple cores with single needle insertion. A 10-fold greater tissue volume is obtained per core with VAB compared with CNB. VAB is a safe and well tolerated procedure and complications are rare. 10-fold greater tissue volume is obtained per core with VAB compared with CNB^[10,11]. As VAB eliminates the need for multiple insertions, it reduces the likelihood of epithelial displacement and needle tract seeding^[12]. When complex masses consist primarily of fluid, they may be difficult to sample with CNB because once the lesion is punctured, solid part may be obscured. VAB is advantageous in this setting, because it requires only one insertion and allows continuous sampling from the target region even after the lesion itself is difficult to visualize^[13].

VAB cores were especially suitable for immunohistochemical analysis for estrogen, progesterone and her 2 neuro receptor analysis. It was performed in seven patients and this information was important for the decision of chemo and hormone therapy. Histopathological and receptor status analysis was one of the major indications for VAB after diagnostic FNAC in the study by Nakano et al^[14].

Invasive papillary carcinoma commonly occurs at an older age group. Histologically papillary carcinoma are of two types intraductal and intracystic with each type further divided into invasive or non-invasive^[15]. Our case was intraductal type of invasive adenocarcinoma.

Treatment for papillary cancer is usually wide local excision without axillary dissection in view of its low recurrence rate and absence of axillary lymph node involvement^[16]. Mastectomy is performed if surgical margins are compromised or if the tumor is large in comparison to the underlying breast tissue. Indications for adjuvant therapy are similar to female breast cancer^[17]. In our case the patient underwent simple mastectomy with adjuvant hormonal therapy.

CONCLUSION

Invasive papillary carcinoma of breast is a rare tumor in men. Vacuum assisted breast biopsy (VAB) is a well-established technique which is more accurate than conventional biopsy procedures like FNAC and CNB which harvest large number of thick and contiguous cores with single needle insertion, thereby increasing the diagnostic yield. Treatment includes wide local excision and mastectomy in selected cases. Adjuvant therapy is similar to that of female breast cancer. Prognosis is good due to its less malignant potential.

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