DOI: 10.5958/2319-5886.2014.00435.4

International Journal of Medical Research & Health Sciences

www.ijmrhs.com Volume 3 Issue 3 Coden: IJMRHS Copyright @2014 ISSN: 2319-5886

Received: 4th May 2014 Revised: 5th Jun 2014 Accepted: 16th Jun 2014

Case report

AN UNUSUAL CASE OF INTRACYSTIC PAPILLARY CARCINOMA OF BREAST WITH INVASIVE COMPONENT

*Suryawanshi Kishor H[1], Nikumbh Dhiraj B[2], Damle Rajshri P[1], Dravid NV[3], Tayde Yogesh[4]

[1]Assistant Professor, [2]Associate Professor, [3]Professor and Head, [4]Assistant Lecturer, Department of Pathology, JMF's ACPM Medical College, Dhule, Maharashtra

*Corresponding author email: ompathologylab@gmail.com

ABSTRACT

Papillary carcinoma of the breast is a rare malignant tumor, constituting 1-2 % of breast neoplasms mostly affecting elderly postmenopausal women. Intracystic (Encysted) papillary carcinoma (IPC) is a rare distinct entity with slow growth rate and overall favourable prognosis regardless of whether it is in situ alone or associated with invasive component. Treatment modalities vary from conservative surgery to radical surgery with or without adjuvant therapy depending upon the associated component (DCIS or invasive) of the tumor.

Herein, we report a case of 55-year-old female presented with a painless lump in the right breast. FNAC yielded haemorrhagic fluid with scanty cellularity of atypical ductal epithelial cells. Patient underwent wide local excision. The final histopathological diagnosis revealed intracystic papillary carcinoma associated with invasive ductal carcinoma, NOS type.

Keywords: Intracystic, Invasive, Papillary carcinoma, Wide local excision.

INTRODUCTION

Intracystic (encysted) papillary carcinoma (IPC) is a rare distinct entity of breast cancer, accounting for 1-2 % of all breast tumors.[1] IPC usually occur in an elderly postmenopausal woman with the subtle clinical presentation of painless breast lump and bloody nipple discharge. Papillary lesions of breast are categorised into invasive and noninvasive papillary carcinoma by Carter et al.[2] Noninvasive papillary carcinoma is further subdivided into a diffuse form of papillary variant of DCIS and a localised form of solitary intracystic (encysted) papillary carcinoma. IPC are further classified into pure IPC or associated with DCIS or with invasive component.[3] We report a case of IPC with invasion in an elderly woman along with the brief review of literature.

CASE REPORT

A 55-year-old postmenopausal woman presented with a lump in the right breast since 6 months. Initially the lump was small in size, gradually enlarged to present size. There was no history of nipple discharge or family history of breast carcinoma. Local examination revealed a lump measuring 4cmsx3cms in the right upper and outer quadrant. Overlying skin was not involved. There was no evidence of axillary lymphadenopathy. Contralateral breast was unremarkable. FNA cytology was repeatedly haemorrhagic and smears revealed few clusters of atypical ductal epithelial cells admixed with cyst macrophages and biopsy was advised. Laboratory investigations, including the haematological and biochemical parameters were within normal limits

Ultrasonographic findings revealed a complex cystic mass with solid component. Patient underwent wide local excision of right breast lump without sentinel lymph node biopsy. On gross examination excised specimen measured 6cmsx4cmsx2cms, externally well circumscribed. Cut section showed a cystic mass 4cmx3cm filled with friable papillary greyish white tumor mass. The surrounding areas show irregular greyish white tumor measuring 2cmsx1cm. The margins of excised mass appeared grossly uninvolved by tumor [Fig-1].Histopathological examination showed tumor arranged in papillary pattern, at places showing solid and trabecular pattern with individual tumor cells showing hyperchromatic pleomorphic nuclei with prominent nucleoli and moderate eosinophilic cytoplasm [Fig-2]. Mitotic count was 8-10 /hpf. Focal areas of necrosis evident in between papillae. [Fig-2] Surrounding breast parenchyma showed an invasive component with the morphology of infiltrating duct carcinoma (NOS) type [Fig-3]. Final histopathological diagnosis given was Intracystic papillary carcinoma with invasive component. Immunohistochemistry (IHC) study revealed tumor cells were negative for estrogen (ER), progesterone (PR), Her2neu and smooth muscle actin (SMA) revealing absent myoepithelial cell layer. Proliferative index (Ki 67) was 80% suggestive of high grade tumor [Fig-4]. Patient was referred for adjuvant treatment and was free from disease after 6 months of follow up.

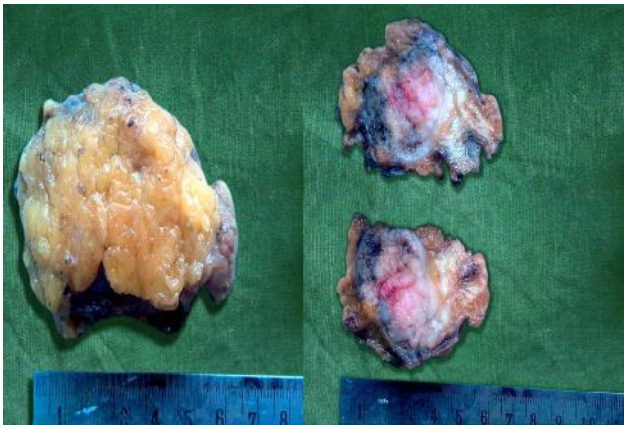

Fig 1: Gross photograph of excised specimen

Wide local excision specimen, 6x4x2 cms, externally well circumscribed. Cut section-- cystic mass 4x3 cms filled with friable papillary greyish white tumour mass with infiltration in the surrounding breast parenchyma.

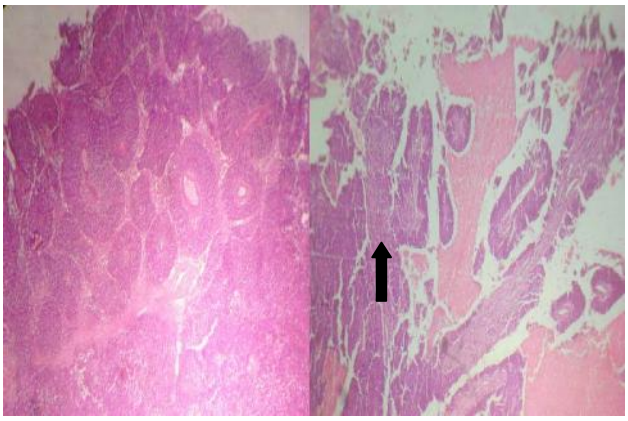

Fig 2: Histopathological examination of tumour

Showing tumour arranged in papillary pattern, at places showing solid and trabecular pattern with individual tumour cells showing hyperchromatic pleomorphic nuclei with prominent nucleoli and moderate eosinophilic cytoplasm.

Mitotic count was 8-10 /hpf. Focal areas of necrosis were evident in between the papillae. [Haematoxylin and Eosin, X 100]

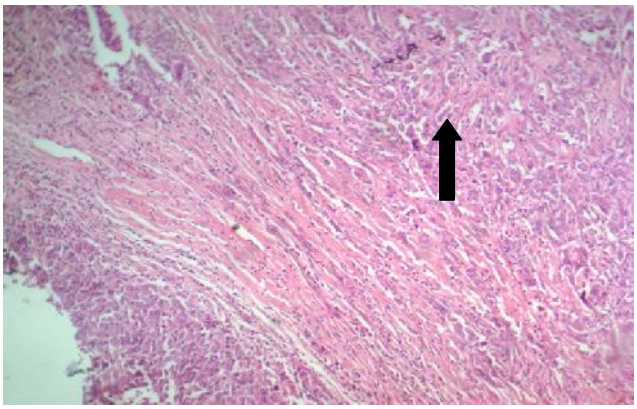

Fig 3: Surrounding breast parenchyma

Showed invasive component with morphology of infiltrating duct carcinoma (NOS) type [Haematoxylin and Eosin, X 100]

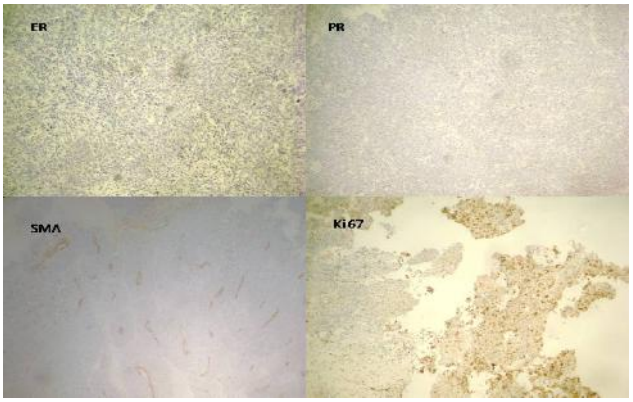

Fig 4: IHC study revealed tumour cells

IHC study revealed tumour cells were negative for estrogen (ER), progesterone (PR) and smooth muscle actin (SMA) revealing absent myoepithelial cell layer. Proliferative index (Ki 67) was 80%. [IHC, X 100]

DISCUSSION

The papillary carcinoma of the breast is characterized by a papillary growth pattern with thin fibrovascular stalk lined by neoplastic epithelial cells. Malignant papillary neoplasms of the breast consist of a wide spectrum of lesions that include ductal carcinoma in situ arising in intraductal papilloma, papillary DCIS, encapsulated papillary carcinoma, solid papillary carcinoma and invasive papillary carcinoma. Lack of myoepithelial cell layer within papillae differentiates benign papillary neoplasm from malignant papillary neoplasm.[4] Intracystic papillary carcinoma is a solitary, centrally located malignant papillary proliferation within an encysted or cystically dilated duct. Traditionally, IPC was considered to be a variant subtype of DCIS but a recent review of literature shows its association with DCIS or invasive breast cancer in about 40% cases.[5] In IPC (pure) form, solid papillary tumor is confined within a cystic dilated duct without DCIS or invasion into the surrounding tissue. A minority of IPC may be associated with invasive component without features of papillary tumor but rather show morphological features of invasive ductal carcinoma, not otherwise specified type.[4] Similar morphological features were noted in our case. Detection of associated pathology (DCIS or invasive form) is the mainstay as prognosis and treatment modalities depend upon these associated lesions.[6] Usually intracystic papillary breast cancers reveal low or intermediate nuclear grade without necrosis. They show strong immunopositivity for estrogen and progesterone receptor and negativity for Her2 neu.[7] IPC associated with invasive carcinoma are of high nuclear grade and necrosis. In our case IHC study showed ER, PR, SMA, Her2 neu negativity with high proliferation index. Histopathological findings revealed high nuclear grade and necrosis.

Papillary carcinoma of breast generally occurs in elderly postmenopausal women aged 63- 67 years. Clinically, patient presents with palpable mass or bloody nipple discharge. It may also manifest as asymptomatic lesion identified at screening mammography.

Radiological findings may show on mammography as an oval or lobulated, circumscribed lesion and on USG as a complex cystic mass with solid component but differentiation between invasive and papillary DCIS is difficult and requires histopathological confirmation.[8]

Cytological diagnosis may be inconclusive as aspirate from cystic component yield haemorrhagic fluid, most of the time which could be negative for malignancy and give false negative result as occurred in our case. Ultrasound guided core biopsy of suspected intracystic mass has been suggested by many authors to differentiate benign from malignant papillary neoplasms but failed to distinguish in situ from invasive papillary carcinoma as invasion is found in peripheral part of the tumor.[9] Tomonori et al[10], also suggested necessity of excisional biopsy . FNA and core needle biopsy have not found sufficient most of the time.

Review of literature showed no definitive guidelines for treatment of IPC. In case of IPC alone, IPC with DCIS and IPC with invasion complete surgical excision of the tumor with clear surgical margins is the recommended surgical management.[11] Sentinel lymph node biopsy may be alternative to full axillary dissection in patient with IPC and associated invasive carcinoma.[12] Wide local excision was performed in our case in view of atypical ductal epithelial cells on cytology and sentinel lymph node biopsy was not done. Data published in many articles recommends adjuvant radiotherapy for IPC associated with invasion and or DCIS. Fayanju et al[6] concluded that most important factor determining use of radiotherapy and endocrine therapy is associated pathology and patients with pure IPC were less likely to undergo radio and endocrine therapies.

Although rare, IPC has an excellent prognosis. The largest reported study of 917 cases carried out on IPC patients found no difference in the relative cumulative survival rate in the patients with IPC alone or associated invasive cancer followed up at 10 years.[13]

CONCLUSION

To conclude, intracystic papillary carcinoma is a rare breast malignancy with favourable prognosis. We are presenting this case of IPC with an invasive component in view of its rarity with favourable prognosis.

Conflict of interest: Nil

REFERENCES

1. Rosen PP. Papillary carcinoma. In: Rosen's Breast Pathology. Philadelphia,Pa: Lippincott Raven 1997;335-354.
2. Carter D, Orr SL and Merino MJ. Intracystic papillary carcinoma of the breast. After mastectomy, radiotherapy or excisional biopsy alone. Cancer.1983; 52(1) 14-19
3. Baykara M, Coskun U, Demirci U, Yildiz R, Benekli M, Cakir A, et al. Intracystic papillary carcinoma of the breast: one of the youngest patient in the literature. Med Oncol.2010;27(4):1427–28.
4. Pal SK, Lau SK, Kruper L, Nwoye U, Garberoglio C, Gupta RK,et al. Papillary Carcinoma of the Breast: An Overview. Breast Cancer Res Treat. 2010; 122(3): 637–45
5. Calderaro J, Espie M, Duclos J, Giachetti S, Wehrer D, Sandid W, et al. Breast intracystic papillary carcinoma: an update. Breast J. 2009;15(6) 639–44
6. Fayanju OM, Ritter J, Gillanders WE, Eberlein TJ, Dietz JR, Aft R, et al. Therapeutic management of intracystic papillary carcinoma of the breast: the roles of radiation and endocrine therapy. Am J Surg . 2007;194(4):497–500
7. Leal C, Costa I, Fonseca D, Lopes P, Bento MJ, Lopes C. Intracystic (encysted) papillary carcinoma of the breast: a clinical, pathological, and immunohistochemical study. Hum Pathol.1998; 29(10):1097–104
8. Liberman L, Feng TL and Susnik B. Case 35: Intracystic papillary carcinoma with invasion. Radiology. 2001;219(3) 781–84
9. Benkaddour YA, Hasnaoui SE, Fichtali K, Fakhir B, Jalal H, Kouchani M, *et al* . Intracystic Papillary Carcinoma of the Breast: Report of Three Cases and Literature Review. Case Reports. Obstetrics and Gynecology. 2012, Article ID 979563:1-4
10. Tomonori K, Takayuki S, Tadahiko T, Hojo S, Akashi-Tanaka S, Murata Y. Clinical and pathological features of intracystic papillary carcinoma of the breast. Surgery Today. 2009; 39(1): 5–8.
11. Harris K, Faliakou E, Exon D, Nasiri N, Sacks NP and Gui GP. Treatment and outcome of intracystic papillary carcinoma of the breast.Br J Surg1. 1999;86(10):1274.
12. Solorzano CC, Middleton LP, Hunt KK, Mirza N, Meric F, Kuerer HM, et al. Treatment and outcome of patients with intracystic papillary carcinoma of the breast. American Journal of Surgery. 2002;184(4):364–68
13. Grabowski J, Salzstein SL, Sadler GR, Blair S. Intracystic papillary carcinoma: a review of 917 cases. Cancer 2008;113(5) 916–20