

Original article

Synchronous occurrence of invasive papillary carcinoma of breast with benign brenner tumor of ovary in a postmenopausal lady

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Abstract:

Breast cancer constitutes a heterogenous group of lesions. Among the breast carcinomas, papillary carcinoma is uncommon and its occurrence along with Brenner tumor of ovary is rare. We present a case of 60 year old multiparous obese postmenopausal lady who presented with symptoms of nipple discharge and was diagnosed with invasive papillary carcinoma, who was further clinically examined and was found to have a huge benign Brenner tumor. So this case is documented for its rarity along with associated lesion and having no gynecological complaints.

Introduction:

Invasive papillary carcinoma of the breast is a rare form of breast cancer, which constitutes about 0.5 to 2 percent of all diagnosed invasive breast tumors and is mainly seen in older adults in the seventh decade or later[1]. Papillary lesions of the breast are characterized by the presence of a fibrovascular core and an epithelial proliferation. Myoepithelial cells are absent in invasive papillary carcinoma[2]. Mucinous differentiation may be seen in some invasive papillary carcinomas of the breast[3].

Ovarian tumors are common forms of neoplasia in women and it accounts for about 30% of female genital cancers[4], of which Brenner tumor constitutes 5%[5]. Brenner tumor is a fibroepithelial tumor composed of transitional epithelial cell nests, similar to bladder epithelium. The Brenner tumors are

usually small, solid, firm grayish knots up to 2 cm in size, however, they may also be quite big, and in such cases they usually have cystic components as a result of cystic degeneration and necrosis. They are mostly benign and 95% of cases are unilateral. Malignant cases are extremely rare (roughly about 2% of all cases), and less than 5% are proliferating or borderline[6]. Some cases may be associated with hyperestrinism, which may present as endometrial hyperplasia in postmenopausal women[7]. Here we report a case of a 60 year postmenopausal lady with invasive papillary carcinoma right breast with incidental huge benign Brenner tumor of left ovary with benign hyperplastic endometrial polyp.

Case report:

A 60 year old postmenopausal multiparous obese female presented to our hospital with complaints of

swelling in right breast noted since three months associated with bloody nipple discharge since one month. She is diabetic and hypertensive since 20 years.

Physical examination of right breast revealed a firm, ill-defined, mobile swelling involving central and upper outer quadrants measuring about 9x5cm. Nipple appears retracted and expresses blood stained discharge.

Patient also had a per abdominal mass on palpation which was mobile firm and non tender and was taken for a gynecological evaluation.

USG of right breast showed a well defined cystic lesion in central and upper outer quadrant.

USG of abdomen and pelvis showed a large heterogenous mass lesion left adnexa ?subserosal fibroid/solid ovarian neoplasm.

CT of abdomen and pelvis revealed a well defined lobulated mass lesion in pelvis arising from fundus of uterus. Final impression was subserosal fibroid.

FNAC from right breast swelling was performed and showed features suggestive of ductal carcinoma breast with fibrocystic change.

Right MRM with pan hysterectomy was done for the patient and specimen sent for histopathological evaluation. Intraoperative findings showed a left ovarian mass along with minimal ascitis.

Gross findings of right MRM specimen showed a retracted nipple. On sectioning a cystic mass is seen located in the central quadrant measuring 3.5x3x2cm and filled with brownish fluid, cyst wall shows polypoidal friable, soft, grey white growth. Five axillary lymph nodes were isolated. Histopathological examination of breast revealed multiple dilated ducts showing features of intraductal papilloma, with one large dilated thick walled cystic space showing

features of intracystic papillary carcinoma with frank invasion, extra vascular mucin and hemorrhage (fig 1A, B, C). Adjacent breast tissue shows invasive carcinoma of ductal morphology with DCIS component along with areas of fibrocystic changes. All 5 lymph nodes and resected margins were free of tumor.

Pan hysterectomy specimen received showed an ovarian mass measuring 14x10x9.5cm with attached fallopian tube. External surface of mass appears bosselated and cuts firm and surface shows tan to grey white admixed with yellowish areas. Cut surface of uterus shows an endometrial polyp measuring 3.2x2x0.8cm. Microscopic examination of ovarian tumor shows nests of ovoid to polygonal nests of transitional cells like epithelium having pale cytoplasm with oval uniform nucleus. Surrounding areas show fibrocollagenous tissue with focal calcifications [fig 1D]. Sections from endometrial polyp shows features of benign hyperplastic endometrial polyp. Ascitic fluid analysis was negative for malignancy.

Discussion

Papillary lesions of the breast have been a manner of challenge for pathologists. The spectrum consists of benign to malignant neoplasms with papillary features including papilloma, papilloma with atypical ductal hyperplasia, in situ and invasive papillary carcinoma [3]. Papillary carcinoma has well-defined borders and thin finger-like papillary projections which sometimes constitutes solid areas. Tumor cells have eosinophilic cytoplasm, round nuclei with moderate pleomorphism and frequent mitoses. Myoepithelial cells are not present in the malignant areas. Invasive papillary carcinoma is mentioned as a low grade malignancy with good prognosis [2].

Intracystic or encysted papillary carcinoma of the breast, also known as encapsulated papillary carcinoma (EPC) represents approximately 0.5–2% of all breast cancers and occurs typically in postmenopausal women. Encapsulated papillary carcinoma (EPC) is characterized by papillary carcinoma within a well-circumscribed cystic or distended duct[1].

Majority of patients with benign Brenner tumors are asymptomatic and over 50% are less than 2cm in size[8]. Only 10% of cases are larger than 10cm and such patients may present with nonspecific signs and symptoms. Occasionally, Brenner tumors are associated with elaboration of estrogens and androgens by its stromal components[9].

It is difficult to diagnose Brenner tumor with imaging studies as the findings are non specific . USG and computed tomography, both the techniques are limited in specificity because of the tumor's nonspecific appearance. In imaging studies benign Brenner tumors are generally similar to those of other solid ovarian masses such as fibroma, fibrothecoma and pedunculated leiomyoma [3].

Histologically Brenner tumours are of three types ,benign, borderline and malignant. Our case was a benign Brenner and is characterized by nests and islands of transitional type of epithelium with centrally placed round to oval nucleus,abundant clear to amphophilic cytoplasm surrounded by fibromatousstroma.

In our case the patient could have had Brenner tumour for a long time which was asymptomatic and secreted estrogen and contributed to the development of benign hyperplastic endometrial polyp as well as stand as a risk factor for the development of invasive papillary ductal carcinoma.

Conclusion:

We hereby presented a case of a postmenopausal lady who presented with both invasive papillary carcinoma breast with intracystic component coexisting with a large benign Brenner tumor of ovary as well as benign endometrial polyp.As discussed earlier hyperestrinism from the Brenner tumor as well as obesity could have been the risk factor for development of breast carcinoma in this lady.

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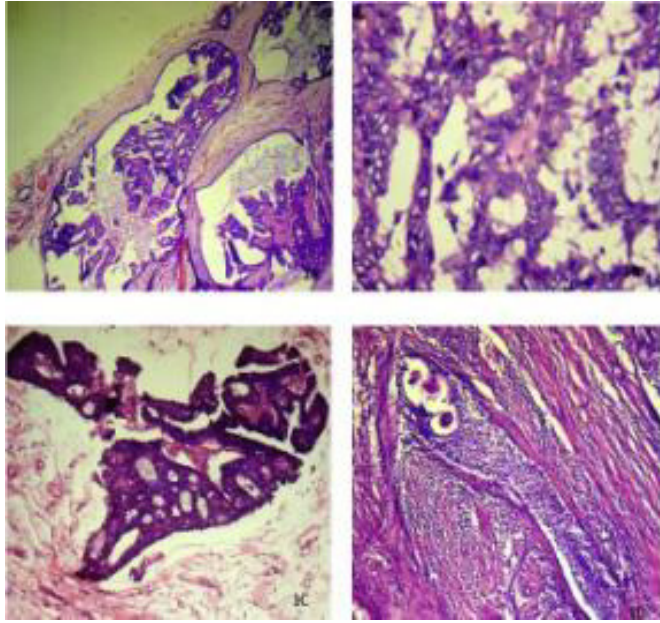


Fig 1A:(100X)Intraductal papillary Carcinoma of the breast with intravasatedmucin.

Fig1B:(400X) Papillae with fibrovascular core and lined by pleomorphic cells.

Fig 1C: (100X) Invasive foci of papillary carcinoma of the breast.

Fig 1D: (100X) Shows Brennerstumour of the ovary with calcification.

References:

- 1.Elverici E, Barça AN, Türksoy O, Araz L, Yüksel E. Bilateral invasive papillary carcinoma of the breast.Clin Imaging. 2007; 31(6): 419-21.
- 2.Eremia IA, Ciobanu M, Tenea T, Comanescu MV, Craitoiu S. Invasive papillary carcinoma: histopathologic and clinical aspects. Rom J Morphol Embryol.2012,53(3 suppl):811-5.
- 3.Gore CR, Panicker N, Karve PP. A cytological and histomorphological case study of an uncommon breast carcinoma: Invasive papillary type. Indian J PatholMicrobiol. 2009; 52(3): 411-3.
4. Benson RC. Diagnosis and treatment.Current ObstetGynaecol. 1976;1:236.
5. KatsubeY,IwaokiY,Silverberg SG(1982).Epidemiological pathology of ovarian tumors:ahistopathological review of primary ovarian neoplasms diagnosed in the Denver Standard Metropolitan Statistical Area,1 July-31 December 1969 and 1 July-31 December 1979.Int J GynecolPathil 1:3-16.
6. Vranes HS, Klaric P, Benkovik LB, Pirkic A. Brenner tumor of the ovary. ActaClin Croat. 2005;44:271-3.
- 7.MingSC,GoldmanH.Hormonal activity of Brenner tumors in postmenopausal women.Am J ObstetGynecol 1962,83:666-673.
- 8.EhrlichCE,Roth LM (1971).The Brenner tumor.Aclnicipathological study of 57 cases.Cancer 27:332-342.
- 9.TavassoliF,A,Davilee P.(Eds.):World Health Organisation Classification of Tumors.Pathology and Genetic of Tumors of the Breast and Female Genital Organs.IARCPress:Lyon 2003