

Tubular Carcinoma of Breast: A Specific Breast Malignancy

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Abstract: Tubular carcinoma of the breast is an uncommon, histologic subtype which has distinct morphological features and important for diagnosing and its further management. In our case patient presented at advance age having small lump in right breast. On Fine Needle Aspiration Cytology (FNAC) examination showed features of epithelial proliferative lesion with atypia. On histopathology diagnosed as low grade ductal carcinoma – tubular carcinoma with invasive foci. We are presenting this case for its uncommon subtype, late age of presentation and its histopathological findings.

Keywords: Rare breast tumor, breast lumpectomy, invasive breast cancer

CASE REPORT

A 70 year female patient presented in our surgical department with a history of lump in left breast since 3 months. There were no clinically palpable axillary nodes. No history of discharge, retraction or any skin changes. The contralateral breast was normal. There was no significant family history. All routine investigations revealed no abnormality. There was no evidence of metastasis on radiological study.

Fine needle aspiration cytology of breast lump showed moderate to highly cellular aspirates, mainly ductal epithelial cells arranged in tubular pattern with numerous discohesive singly scattered cells. Cellular atypia noted, myoepithelial cells were absent. Cytopathologically reported as epithelial proliferative lesion with atypia. Excision was advised.

We received excised left breast lumpectomy specimen measuring 3.5x2.5x2cm in diameter. On cut section showed single, poorly circumscribed grey white nodular tumor mass measuring 1.6x1 cm in diameter. Surrounding breast tissue appeared normal (fig. 1).

On histopathology microscopic examination revealed breast tissue having tubules lined by single layer epithelial cells. The tubules were ovoid or sharply angular with tapering ends and open lumina. The cell lining the tubules showed low grade nuclear features, many of the cells showing apical cytoplasmic snout. Tumor showed tubular element more than 90% (fig. 2). The stroma showed desmoplasia and mild mononuclear cell infiltrate. There was no associated ductal carcinoma in situ, necrosis or haemorrhage. At focal area, tumor is showing infiltration in the surrounding stroma (figure 3). The histomorphological diagnosis was given as invasive tubular carcinoma -pure type- left breast lump, having grade I according to the criteria of the Elston

and Ellis modified Bloom-Richardson grading scheme. There was no axillary lymph node metastasis. All the surgical margins were free from the tumor.

DISCUSSION

Tubular carcinoma is a well differentiated form of Infiltrating duct carcinoma [1]. The average age of presentation for a patient with tubular carcinoma is about 50 years [2] while in our case patient presented in late age. The reported incidence of tubular carcinoma accounts for 1 – 4 % of all breast cancers [3]. It is characteristically small with a mean diameter of about 1 cm [4]. Most of these tumors are typically small and difficult to detect on clinical examination but on mammography majority of these lesions get detected. For tubular carcinomas, screening mammography is important for smaller lesions [5].

Because of marked degree of cellular differentiation it is not unusual for these tumors to be underdiagnosed as fibroadenoma or some other benign process on fine needle aspiration material [6].

The identification of tubular carcinoma by fine needle aspiration will not differentiate a pure tubular carcinoma, which has a good prognosis, from one of mixed pathologic features. Core needle biopsy will allow a more accurate preoperative diagnosis in such cases. On histopathology more than 75% tubular element is usually required for the diagnosis of tubular carcinoma [4, 7].

The clues to diagnosis are haphazard arrangement of tubules in the stroma, angulation, open lamina and invasion of fat by the tumor at the periphery. In our case all these features were noted. More than 90% of tubular element is usually required for the diagnosis of pure tubular carcinoma [3]. In other

cases it is usually called as mixed tubular carcinoma. A high incidence of additional histologic subtypes is associated with tubular carcinoma. In our case, it was of pure type with no evidence of ductal carcinoma component.

Invasive tubular carcinoma is a morphological distinct subtype of carcinoma with a favourable outcome compared with grade I ductal carcinoma [4, 8]. Microscopically, the well differentiated appearance of tubular carcinoma may lead to under diagnosis. The lesions with which it is most frequently confused are sclerosing adenosis, radial scar, microglandular adenosis. Immunohistochemistry for myoepithelial cell component is helpful in such cases. Negative demonstration of which indicates invasion.

Metastasis to axillary nodes is very rare. About 9-15% of cases show evidence of nodal involvement [1, 9]. In our case there was no evidence of nodal metastasis on clinical and radiological examination. As in our case, tumor is of very low grade as morphological feature, limited growth, very small foci of invasion in surrounding breast tissue. The lumpectomy was performed. The surgical margins were free from the tumor. On follow up, patient is doing well and is disease free.

CONCLUSION

Tubular carcinoma of the breast is a special type of breast carcinoma which is identified using strict histologic criteria. It can be managed by adequate local surgical treatment as this cancer has exceptionally favourable prognosis, as seen in our case which was pure type of tubular carcinoma with no regional lymph node metastasis.

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