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Tubular Adenoma of the Breast : A Rare Presentation and Review of the Literature

Medical Sciences

KEYWORDS : Tubular Adenoma, Breast Mass, Benign

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ABSTRACT

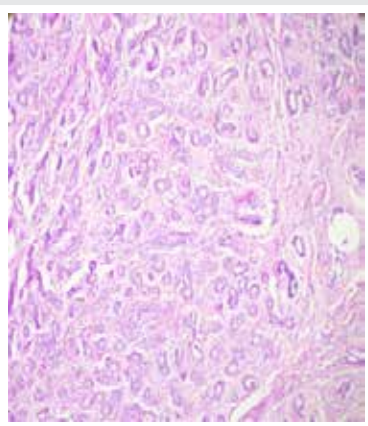
Tubular adenomas are rare epithelial tumors of the breast accounting for 0.13 - 1.7% of benign breast lesions. They mainly occur in young women of reproductive age group and must be differentiated from other benign lesions and from malignant breast cancer. We present a case of tubular adenoma in a 20 year old female who presented with a gradually enlarging lump in the left breast. Clinical and radiological examination revealed a well circumscribed lump suggestive of fibroadenoma. The lump was excised and was histologically diagnosed as tubular adenoma. We conclude that preoperative diagnosis is difficult because tubular adenoma is indistinguishable from a fibroadenoma on physical examination and breast imaging and surgical excision is necessary to establish a definitive diagnosis.

INTRODUCTION :

Tubular adenoma was first described as a distinctive entity in 1968 by Persaud et al.[1] Reports on electron microscopical and cytological studies were published almost 15 years later (1983) by Moross et al [2] and only a few cases have been reported in the literature. Tubular adenomas, also called "pure adenomas", are uncommon benign lesions of the breast which is characterized histologically by a circumscribed mass consisting of prominent lobular proliferation and closely packed small ducts with minimal supporting stroma.[3,4] The clinical and imaging features of tubular breast adenomas are similar to those of fibroadenomas, thus making preoperative diagnosis very difficult.[5] Young women of reproductive age are most commonly affected and are not associated with oral contraceptive treatment or pregnancy, while postmenopausal women are very rarely affected.[3,4,6] Final diagnosis of tubular adenoma of breast depends upon histopathology.[2,7,8]

CASE REPORT :

A 20 year old female presented in the outpatient department with complaints of a gradually enlarging lump in the left breast since 4 months. The patient had no significant past or family history, with normal (regular) menstrual cycles. On physical examination she had a 2 x 2 cm firm, mobile, mildly tender lump occupying the upper outer quadrant of the left breast. There were no skin alterations, nipple discharge or palpable lymph nodes associated with the lump. Ultra sound examination revealed a hypo echoic well circumscribed mass without any calcifications suggestive of fibroadenoma. Local excision was performed and sent to the histopathology department for examination. We received a 2.2 × 2.1 × 2 cm well circumscribed mass showing solid white areas on the cut surface. Histologically, the lesion consisted of closely packed tubular structures lined by a single layer of secretory cells and few flattened myoepithelial cells, with scanty connective tissue stroma between the tubules showing mild fibromyxoid changes at places and was thus diagnosed as tubular adenoma. (Figure 1 and 2)



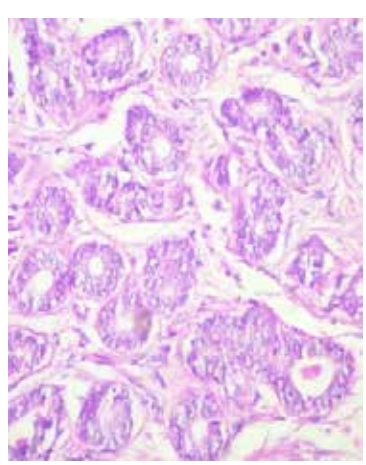


Figure .1 and .2 show microscopic appearance of tubular adenoma at 10x and 40x magnification showing closely approximated round to oval glandular structures. The lining is comprised of a single layer of epithelium supported by a layer of myoepithelial cells with minimal intervening stroma.

DISCUSSION :

Breast adenomas are pure epithelial neoplasms and are classified into true adenomas, nipple adenomas and fibroadenomas according to Hertel et al.[9] In 90% of the cases these tumors are found in patients younger than 40 years old.[10] The risk of malignant transformation is almost non-existent, with only one case of probable transformation having been reported in literature.[11] Tubular adenomas usually represent painless freely movable well-defined breast masses without associated skin or nipple alterations.[9,12] Grossly, tubular adenoma is well-circumscribed with solid homogenous to finely nodular tan yellow cut surface and firm consistency [5] and tend to be softer than fibroadenomas.[7] Histologically, the tumor is characterized by the presence of tightly packed homogenous tubular and acinar epithelial components with sparse intervening stroma on the contrary to fibroadenoma which contains a large amount of stroma.[10] Maiorano and Albrizio studied 10 cases of tubular adenomas and 6 cases of fibroadenomas in order to investigate possible relationships between these 2 tumors. They found that the morphological characteristics of tubular adenoma closely resemble in some areas of the tumors those of fibroadenoma and they suggested that the two tumors may are histogenetically related with predominant stromal component in fibroadenomas and exuberant ductular component in tubular adenomas.[13] Histologically, the differential diagnosis of tubular adenomas includes fibroadenoma, nipple adenoma, sclerosing adenosis, eccrine spiradenoma and tubular carcinoma.[9] In addition, the presence of degeneration or infarction may be associated with atypia that can mimic malignancy.[14] Since it is difficult to differentiate tubular adenoma from malignant breast cancer by clinical and radiological examination, core biopsy before surgical excision is usually needed.[3,6] Complete excision of the lump is curative.[3]

CONCLUSION :

We conclude that this rare, benign, epithelial neoplasm that can be potentially confused with fibroadenomas and should be considered as a potential differential diagnosis, as preoperative diagnosis is difficult because tubular adenoma is indistinguishable from a fibroadenoma on clinical examination and breast imaging. It can be identified with certainty only after histopathological examination and clinico-radio-cytological evaluation aiding the diagnosis.

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