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A case report of the breast tubular adenoma in the perimenopausal age group

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Abstract

Tubular adenoma is a rare benign breast tumor that makes up 1.7% of all breast tumors. Clinically and radiologically, it cannot be distinguished from fibroadenomas. It is rarely seen after 40 years of age. It usually presents in the form of painless masses, and preoperative radiological and pathological diagnosis is challenging. We herein present a case of tubular adenoma diagnosed at the age of 46 years with clinical, radiological, and histopathological examinations. The patient presented with atypical features, and a doppler ultrasonography signal was observed. The diagnosis was made via tru-cut biopsy.

Keywords: Tubular adenoma, Breast, Ultrasonography

Introduction

Tubular adenoma is one of the rare breast lesions. It makes up 4% of benign breast tumors and 0.13 - 1.7% of all breast tumors [1]. Clinical features and radiological findings of tubular adenoma are mostly similar to those of fibroadenoma [2]. Preoperative diagnosis remains difficult [3]. According to literature, tubular adenomas are rare after 40 years of age, and very rare in the postmenopausal period [4]. They are usually seen as a painless, well-circumscribed mass [1-5]. We present the case of a 46-year-old patient with a tubular adenoma which developed during the perimenopausal period, in light of ultrasound (USG) results and histopathological examinations.

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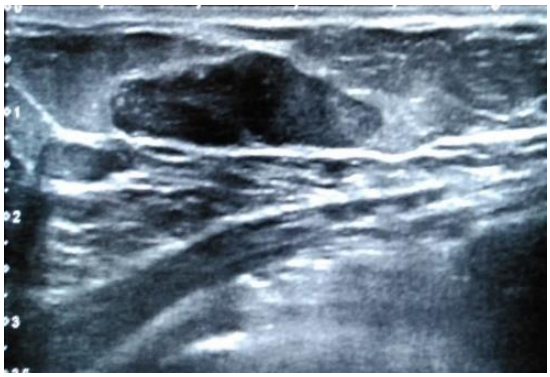
Case presentation

A 46-year-old female patient was admitted to our hospital with a palpable mass under the clavicle and pain in the lower outer quadrant of her right breast. The patient was in reproductive period, but her menstrual cycle was irregular. She had no family history of breast cancer and no notion of drug use. No prior consultation by a surgeon or a radiologist was carried out. The lesion under the clavicle was thought to be a lipoma due to its consistency and flat contour; however, a solid mass lesion was detected in the right lower outer quadrant. The patient was referred to the radiology outpatient clinic with the request of USG.

Radiology

Ultrasonography, performed with Toshiba S 300 device using a high resolution 14 MHz probe, revealed that the lesion under the right clavicle was a lipoma. Bilateral breasts were ACR type C pattern. Both axillae were normal. However, a 28x14 mm solid mass lesion was found in the lower inner quadrant of the left breast at 8 o'clock in the upper medial section, parallel to the pectoral axis. It was hypoechogenic, and internally homogenous with a smooth contour and a superficial location (Figure 1). The mass' sonographic features were similar to fibroadenoma, but Doppler ultrasonography showed intensive blood supply. Tru-cut biopsy was performed at the request of the patient and because of the size of the solid mass (exceeding 2.5 cm). Two preparations were obtained from the lesion.

Figure 1: A well-circumscribed, ovoid, hypoechoic solid mass lesion on sonography



Histopathology

Tru-cut biopsy material consisted of two 1.3 cm-long, cream-colored tissues. The material was fixed in 10% formalin and sampled into tissue cassettes. After routine tissue follow-up, paraffin blocks were formed. 5 µm thick sections were obtained from the blocks and stained with hematoxylin-eosin. Slides were examined by a light microscope.

The lesion was characterized by proliferation of tubular structures with rounded-oval shaped two-layer cell layers close to each other, where stroma was almost non-observable (Figure 2). Immunohistochemically, the myoepithelial layer in the tubules stained positive for CD10 (Figure 3). The lesion without cellular atypia was diagnosed as 'Tubular Adenoma'.

Figure 2: Hematoxylin-eosin (HE) staining x 200. Round-oval glands/tubules in close proximity. Fibrotic stroma can be observed in the narrow spaces. Tubules are lined with two rows of cells.

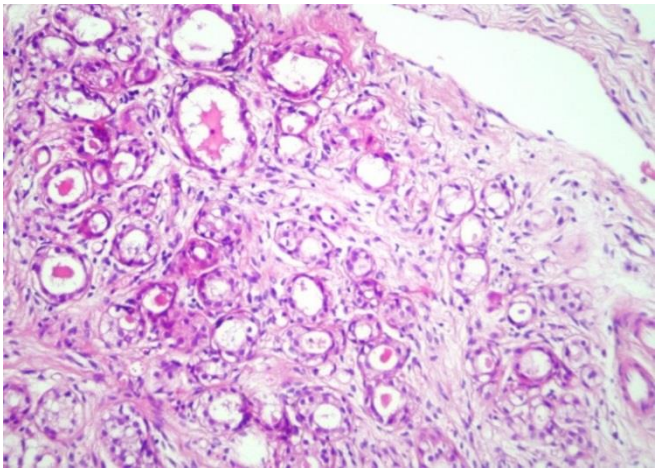
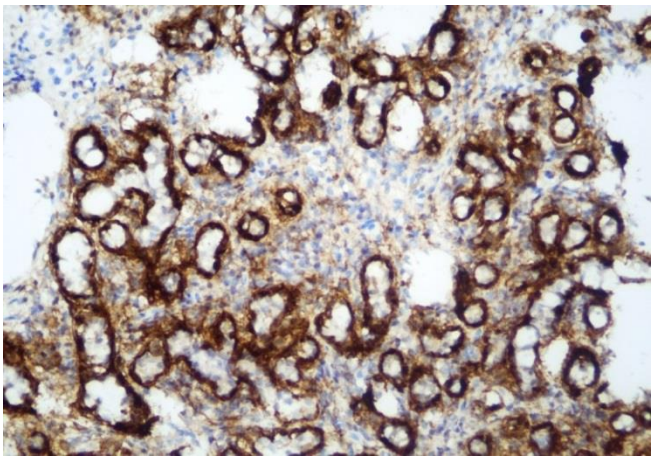


Figure 3: CD10 x 200. Immunohistochemically positive for CD10, all round cells with myoepithelial layers of preserved tubules



Follow-up

The patient did not consent to operation. Two follow-up ultrasounds were performed after three months and one year, along with a mammography after one year. The lesion was entirely stable in shape and size. Annual follow-up was suggested in the last ultrasound examination.

Discussion

Tubular adenoma, a rare breast tumor, is a subclass of breast tumors similar to pericanalicular fibroadenoma. Radiological findings resemble those of fibroadenomas [6]. It is a homogeneous, iso or hypo-echogenic mass lesion with a uniform margin [7]. In our case, B mode USG images were in accordance with the general criteria. Generally, preoperative radiological and pathological diagnosis is rare [8]. Our patient was diagnosed by tru-cut biopsy.

In the literature [9], biopsy indications for fibroadenoma-like lesions are as follows:

- Growing lesion
- Suspicious USG findings in terms of malignancy
- Non-traced lesion of 2.5-3 cm in size
- Patient request

The lesion of our patient was in accordance with the biopsy criteria of fibroadenoma-like lesions; hence, a tru-cut biopsy was performed, and tubular adenoma was diagnosed.

A tubular adenoma is seen in patients under 40 years of age in more than 90% of the cases. Our patient was still in

reproductive period but close to menopause. This is very rare in that age group.

Size of the lesion varies between 1 cm and 7.5 cm at the time of diagnosis and may occur 2-12 months before the diagnosis. The dimensions we measured were consistent with the literature.

Tubular adenomas present as mobile, painless, well-circumscribed masses that do not show skin and nipple changes and are clinically similar to fibroadenomas [1].

Malignant transformation was rarely reported in the literature. In elderly patients, the lesion may contain microcalcifications which can be confused with malignancy (6). According to Lee et al., 77.3% of malignant masses and 16.7% of benign masses showed signals in doppler USG [10]. In our case, the lesion showed a signal on color Doppler US.

Conclusion

Tubular adenoma, one of the rare forms of fibroadenoma-like lesions, is exceptional in the perimenopausal and postmenopausal age group. Although it is usually painless, it may present with different clinical manifestations. It is usually in the form of a well-defined solid mass lesion. Doppler USG features are similar to other benign solid breast lesions.

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