Tubular adenoma of breast in two young Congolese. Unusual original report

Adenome tubulaire du sein chez deux jeunes congolaises: Cas clinique inhabituel

Pakasa NM*, Kasereka K*, Kingebeni GN*, Bola GN*, Kajimina JCK*, Lebwaze BM*.

Corresponding author
Pakasa Muyulu Nestor, *MD, PhD*
Department of pathology, University of Kinshasa Hospital, Democratic Republic of Congo.
Phone: (+243) 994392768.
E-mail: nestorpks2@gmail.com

Résumé

Les adénomes tubulaires représentent une entité pathologique rare. Le diagnostic doit reposer sur des critères histologiques et immunohistochimiques. Les auteurs rapportent les aspects morphologiques histologiques et immunohisctochimiques d'adénomes tubulaires du sein à partir de deux cas récents chez deux jeunes congolaises.

Mots clés : adenome tubulaire, fibroadénome, immunohistochimie, sein

* Department of Pathology, University of Kinshasa Hospital

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Summary

Tubular adenomas are a rare distinctive entity in which diagnosis is still restricted on strict histologic and immunohistochemical criteria. The authors yielded an unsual tubular adenomas of breast from two recents cas accessioned in young women.

Key words: Breast, Tubular adenoma, Fibroadenoma, Immunohistochemistry

Introduction

Tubular adenomas (TA), also termed pure adenomas, are rare benign proliferations of the breast often found in young women (1, 2). Grossly, tubular adenomas appear as circumscribed masses. Microscopically, they contain closely approximated tubular and acinar (bud-like) structures (2). These structures are made of two layers of epithelial and myoepithelial cells (2, 3). Although they are related to the most common fibroadenomas, TA differ in that they have only scanty connective tissue and that the epithelial component consists of acinar units rather than ducts. In addition, they tend not to show excessive epithelial hyperplasia (4).

There have been no previous report of TA from DRC. Because of the rarity of this condition, a long list of other related benign entities and possible misdiagnosis for a tubular carcinoma, we provide herein full histologic differential features from two recent surgical pathology cases received in our department, to enable awareness from clinicians and accurate diagnosis from pathologists.

Cases reports

Biopsies were from 17 and 22 year old healthy females who presented in peripheral dispensaries of Kinshasa with breast lumps. Since patients had no clinical complaints, as usually in poor-resourced settings, no additional work ups were deemed necessary and masses were surgically removed in toto and send to our laboratory with a quest about nature of the growth. We were able to find back the 17 years old girl after surgery who was healthy and symptomless. Gross examination showed in both cases solitary, well-circumscribed, tan yellow, firm mass measuring 2 and 2,5 cm diameter each. The cut section was in both cases homogenously white with a capsule. There was no evidence of regressive macroscopic changes. Microscopic examination exhibited closely packed small tubules (Fig 1a) lined by single or bi-layers of cuboidal or cylindrical epithelial cells (Fig b, c). Some tubules were dilated and filled with eosinophilic proteinaceous material (Fig b) but no lactating cytoplasmic features were seen. Epithelial cells were bland without cellular atypism nor evidence of malignant proliferation (Fig 1 c). There was a scanty stroma in most parts of the tumor whereas in other areas, loose edematous stroma was slightly cellular and but not fibrotic. In many areas, there were obvious myoepithelial component hyperplasia (Fig 1 c). Immunohistochemistry using smooth muscle actin antibody was strongly positive for myoepithelial cells (Fig 2) while epithelial membrane antigen (EMA) was positive for glandular cells.

Discussion

The WHO classification of female breast tumors (2003) includes tubular adenomas among benign epithelial proliferations of the breast (1), and are defined as benign, usually round nodules formed by a compact proliferation of tubular structures composed of typical epithelial cell layers (1-4). The epithelial cells are similar to those of normal resting breast, but adenoma variants have been reported where these show apocrine or lactating features (1-4). These features enable their distinction with related fibroadenomas (FA). However, the key distinctive feature is the fact that they harbor very little scanty fibrous tissue in contrast to abundant often collagenous fibrous tissue encountered in their FA counterparts (1-4). Clinically, most cases occur between 15-49 years age (1, 2). Epidemiological surveys indicate that so called pure adenomas are rare, often found in young otherwise symptomless women (1). However, exceptional cases in elder women have also been reported (5, 6). No association with pregnancy or oral contraceptive use has been reported. No recurrences have been reported nor evidence for increased risk of carcinoma (5, 7). Few studies have reported useful imagery findings of TB which appear similar to those of either non calcified fibroadenomas of malignant masses associated with clusters of microcalcifications on mammography (8). However, definite diagnosis rests on accurate histological differential diagnosis between several entities including lactating adenoma, microglandular adenosis, sclerosing adenosis, fibroadenoma, ductal adenoma, nipple adenoma, tubular carcinoma and tubular adenosis (1). According to the classification proposed by Hertel *et al* (9), breast adenomas are subdivided into true adenomas, nipple adenomas and fibroadenomas. Lactating breast normally exhibits prominent lactational change while luminal secretion may be present as in cases reported here, but cytoplasmic vacuoles are lacking (1-4, 9). Unlike microglandular adenosis which shows a poorly circumscribed pattern and mass surrounds normal elements, TA are circumscribed and mass displaces normal elements. Myoepithelial cell layer is present in densely packed tubules and a scant stroma in TA, while in microglandular adenosis, glands lack myoepithelial cell layer, are haphazardly scattered and stroma shows abundant fibrous or is fatty (1, 4). Distinguishing criteria from other

lesions are extensively described elsewhere (1-4). Ancillary immunohistochemical studies have shown a characteristic profile as luminal epithelial cells are Estrogen (ER+), Progesterone (PR+) and epithelial membrane antigen (EMA+), while ablumenal myoepithelial cells are Calponin, p. 63, smooth muscle actin positive as well as Vimentin and S100 positive (10). Treatment is surgical excision and the mass does not recur (1).

In conclusion, TA 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. The rather uniformly sized ducts are lined by single layers of epithelium and myoepithelium.

Competing interests

The authors declare that they have no competing interests.

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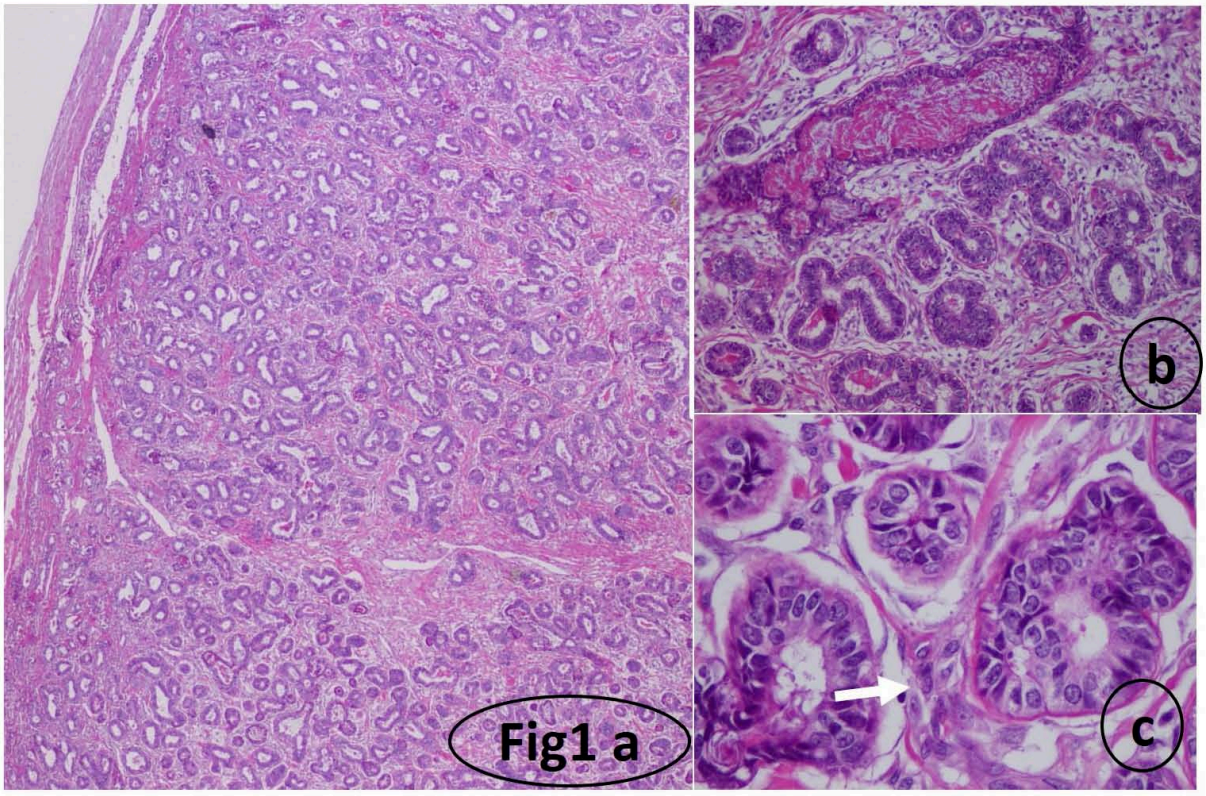

Figure 1: Microscopic appearance of TA. **(a)** Low power view of encapsulated TA showing homogeneously tightly packed tubular epithelial component and scanty loose connective tissue. (HE × 4); **(b)** a dilated tubule filled with secretory proteinaceous eosinophilic material is conspicuous (HE × 10) and **(c)** High power view showing single or bilayer epithelial glands while hyperplastic myoepithelial component is conspicuous (white arrow) (HE × 40)

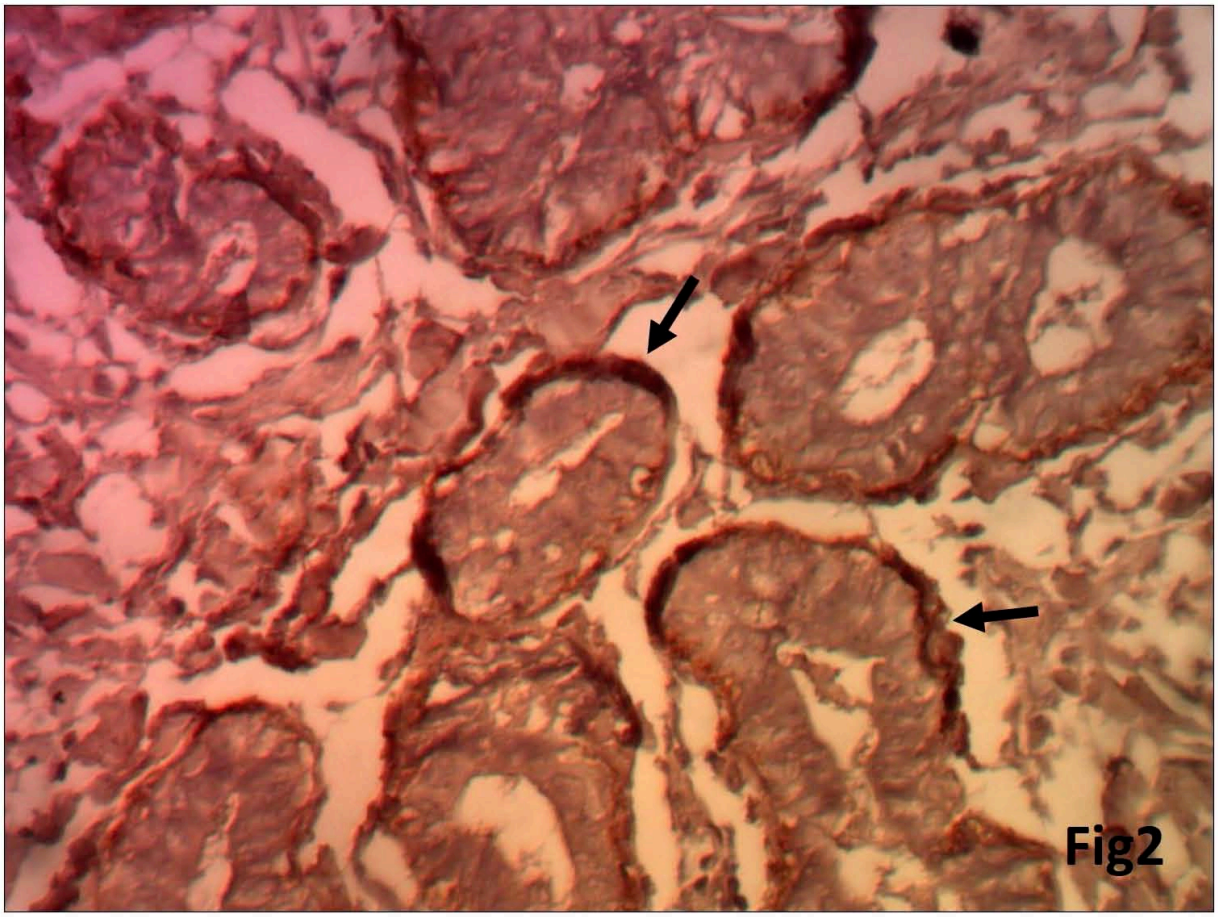

Figure 2: Immunohistochemistry. The figure highlights the hyperplastic myoepithelial component (arrows) using smooth muscle actin antibody. (PAP × 40)