

## GIANT TUBULAR ADENOMA OF BREAST IN A YOUNG NULLIPAROUS FEMALE: A CASE REPORT

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### Abstract

**Background:** Tubular adenoma of breast is an uncommon benign condition in young females, with only few growing to a very large size. Triple assessment tools shows similar presentation as a fibroadenoma, however, only excision biopsy can differentiate tubular adenoma from fibroadenoma.

**Methods:** A case of giant lump in 18 years young, unmarried, nulliparous female presented in outdoor patient department of a medium size trust hospital of Lahore, Pakistan and was preoperatively diagnosed as a case of fibroadenoma.

**Results:** Postoperative excision biopsy report showed a rare pathology of giant tubular adenoma of breast.

**Conclusions:** Giant tubular adenomas are rare clinically in nulliparous young females and should be considered in differential diagnosis of breast lumps among young, nulliparous females and a long-term follow-up of patients is required to observe its potential for recurrence and malignancy.

**Key Words:** Giant tubular adenoma, Fibroadenoma, young nulliparous female

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Tubular adenomas are uncommon benign tumors of the breast.<sup>1</sup> These adenomas are usually reported among women of child-bearing age as palpable, well-circumscribed lumps and ordinarily diagnosed as fibroadenoma on clinical radiological and fine needle aspiration cytology/core biopsy.<sup>1,2</sup> To date, there are only two cases been reported in postmenopausal women, with most of them presenting in child bearing age.<sup>2</sup> Preoperatively, tubular adenomas are similar to fibroadenoma of breast and can only be differentiated by excision biopsy and histological reporting. These are not pre-malignant conditions, but recently one case of ductal carcinoma-in-situ among these patients,<sup>3</sup> warrants a long follow-up to intervene early. We are presenting a case of giant tubular adenomas in a young

nulliparous female, which is a rare clinical presentation considering age and parity of patient. This will inform surgeons to consider giant tubular adenomas in their differential diagnosis of breast lump among young, nulliparous females and subsequent management of such cases.

### Case presentation

A 18- years young, nulliparous female presented with a painless lump in upper half of her left breast at our breast clinic, located in a mid-sized tertiary care trust hospital in Lahore. Patient stated that this lump was present at this site for the last 2 years, however, its size changed during the last three months, which created apprehension and subsequent self-presentation. She did not describe any other complaints associated with this lump. There was no history of discharge, redness, stiffness associated with this lump. There was no history of any previous surgery, comorbid conditions or family history of breast or ovarian cancer. She was unmarried and had an unremarkable gynecological history.

On physical examination, we found a mobile, well-defined 10x10x5 cm mass in the upper inner and outer quadrant of her left breast. There was no nipple discharge, skin changes or axillary lymphadenopathy.

Ultrasonography examination showed a well-circumscribed solid lesion occupying upper-inner and

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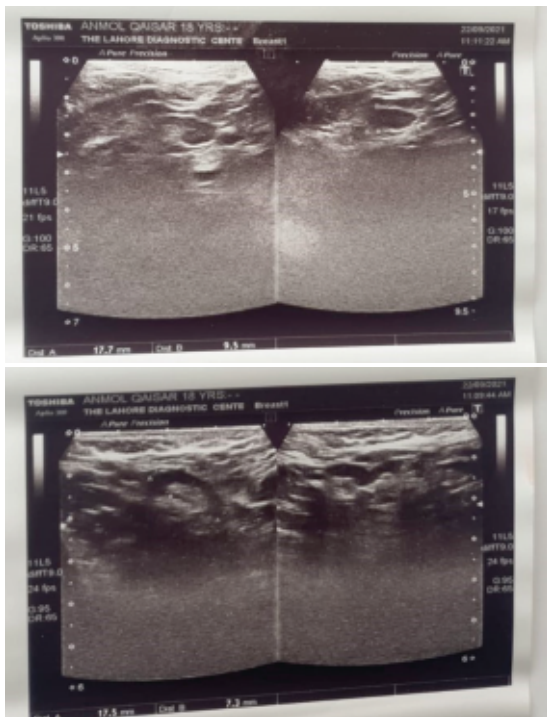
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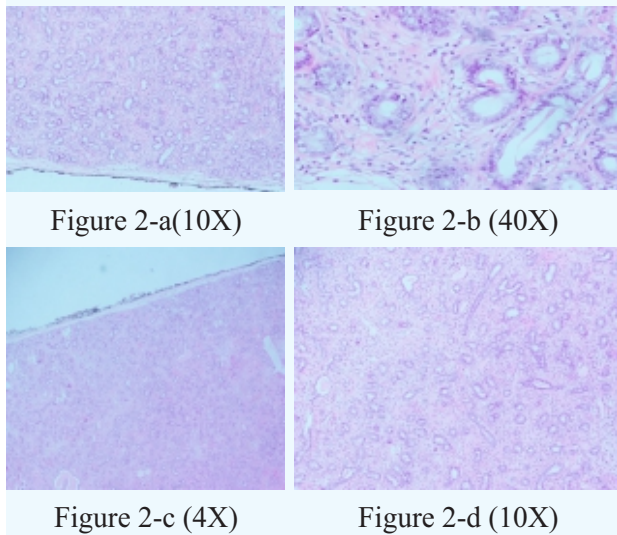
upper-outer quadrants, just beneath the skin measuring 10×9.7×4 cm, having arterial feeder near chest wall. Posterior margin of the lesion was abutting chest wall without gross infiltration. Lump tissue had smooth hypoechoic texture as compared to surrounding breast parenchyma, with posterior acoustic enhancement. (Figure 1). Right breast showed a 9mm cyst with benign lymph nodes. No calcification, or nipple retraction observed in the right breast tissue also. A core-needle biopsy indicated a fibro-epithelial lesion, with an impression pointing toward a diagnosis of a breast fibroadenoma.

Patient underwent lumpectomy through a crescent incision around areola. Dissection of lump exposed a 10×10×5cm, well-circumscribed mass, which was excised well with no intraoperative or postoperative complications. Stiches removed on 7th post-operative day with good cosmetic outcome.

Histopathology report showed a lump measuring 11×10×4.5 cm. Serial sections showed soft to firm gray white cut surface with areas of clefts measuring 10.5×9.5×4.5 cm. Microscopy indicated a breast tissue with proliferation of round to oval ducts lined by myoepithelial layer favoring a diagnosis of tubular adenoma (Figure 2). There was no evidence of malignancy. Considering the size of the lesion to be more than 5cm, this lump was classified as a giant tubular adenoma using the criteria described by Kalipatnapu et al.<sup>4</sup>



**Figure 1:** Ultrasound image of giant tubular adenoma in a young, nulliparous female



**Figure 2:** Histology of giant tubular adenoma of breast dissected from a young, nulliparous female showing microscopic appearance of benign breast ducts arranged in tubular pattern surrounded by benign stroma.

## DISCUSSION

Tubular adenomas are rare benign neoplasms of breast occurring in females of reproductive age, with only two cases reported in postmenopausal women.<sup>3</sup> The overall incidence of breast tubular adenomas ranges between 0.13% to 2.8%.<sup>4</sup>

Triple assessment in cases of tubular adenoma can be quite deceptive. Clinical presentation is similar to fibroadenoma for small or Phylloides for larger tumour; presenting clinically as painless, mobile, palpable, well defined masses without skin or nipple involvement. The size of these benign neoplasms have been reported in range from 1-7.5cm, yet, they could grow to very large size in a rare cases.<sup>3,4</sup> According to Kalipatnapu et al.<sup>4</sup>, when size of these lumps is more than 5cm, these could technically be classified as “giant adenoma”. Our case had lump size of 10×10×4.5 cm, which differentiates this cases from other reported cases.

The age of our case was 18 years which is unusual for a case of giant tubular adenoma, compared to other reported case reports. Most case reports described the age range of patients in between 20-30 years, but, a single study of nine cases found 31 years as the average

age of these female patients.<sup>5</sup> An association of giant tubular adenomas has been reported with pregnancy and lactation, which suggests that it could be hormone sensitive;<sup>1</sup> This is in contrast to our observation since the case is young, unmarried and nulliparous.

Radiologically, ultrasound examination remains the main investigation in most of the cases since tubular adenoma occur mostly from 20 to 40 years. Mammography may be useful among females, aged 40 years or above. The ultrasound examination mostly resemble in cases of fibroadenoma and giant tubular adenoma, in terms of echogenicity, uniformity of echotexture, posterior acoustic enhancement, lateral wall shadowing.<sup>6,7</sup> A study by Fu et al.<sup>7</sup> showed three significant factors in the differential diagnosis of tubular adenomas and fibro adenomas, including "macro-lobulation", "tiny branch like" patterns and "vascularity".<sup>7</sup> Calcifications may be seen, but it is different from the cases of carcinomas.<sup>8</sup> In older women, tubular adenomas may resemble malignant masses with microcalcifications.<sup>2,8</sup> Surgical excision is necessary to obtain a clear histopathological diagnosis. Histology examination indicated the presence of tightly packed epithelial elements (predominantly acini and tubules), surrounded by myoepithelial cells and minimal intervening stroma.<sup>1</sup> The differential diagnoses of a tubular adenoma of the breast are lactating adenoma, micro-glandular adenosis, sclerosing adenosis, fibro-adenoma, ductal adenoma, nipple adenoma, tubular carcinoma and tubular adenosis.<sup>1,4</sup>

There are two reported cases of tubular adenomas, which were associated with malignancy. Saimura et al.<sup>9</sup> described ductal carcinoma in-situ within tubular adenoma tissue, whereas Domoto et al.<sup>10</sup> found colocalization of a tubular adenoma with invasive ductal carcinoma.<sup>9,10</sup>

Case under discussion is a young unmarried female with a recent change in size, resulting in a very large lesion. Rarely, the cases of tubular adenomas been reported having larger size in this age. Clinically, it was a benign lesion which was mobile despite having very big size. Her pre-operative ultrasound showed a homogenous well circumscribed lesion resembling

fibroadenoma, but it had an arterial feeder along chest wall as also noted by Fu et al.<sup>7</sup> to be a distinguishing feature for tubular adenomas. Excision of lesion of this much size in a young unmarried girl was challenging, however, large areola size of the breast facilitated to use a crescent incision around areola. Cosmetic outcomes were reasonably good.

Currently, there are no guidelines for the management of tubular adenomas, owing to rare presentation and lack of research. However, a long-term follow-up of patients is required to observe the possible association with malignancy, especially with giant tubular adenomas.<sup>9,10</sup>

## CONCLUSION

Tubular adenomas are thought to be rare, benign lesions of the breast with no malignant potential. However, since a case of ductal carcinoma in-situ arising in tubular adenoma had been reported, and the long-term follow-up data is limited, therefore, we plan to continue monitoring of this patient. Regular self-examination was advised along with long term clinical follow-up.

## Conflict of Interest

*None*

## Funding Source

*None*

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