



# Fibroadenoma in the male breast: Truth or Myth?

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## ABSTRACT

Truth or myth is seldom encountered in the practice of surgery, especially in cases of breast diseases. Yet, even after thousands of years of treating breast disease by surgeons/healers, fibroadenoma in the male breast seems to be a myth, due to the absence of fibro-glandular tissue. We wish to break this myth by our own experience as well as other studies by others all over the world, and unveil the truth that fibroadenoma in the male breast is a definitive entity and has a prevalence among the vast spectrum of breast diseases.

**Keywords:** Male, breast, fibroadenoma, tumour, benign lesion

## INTRODUCTION

Diseases of the breast have influenced the world since ancient times. Fibroadenoma has almost always been associated with premenopausal female breast. A clinical diagnosis of fibroadenoma in the male breast is unexpected due to the lack of fibro-glandular tissue in normal males. Only a few cases of fibroadenomas in males have been reported in the literature; most of the reported cases involving male-to-female transsexuals (1, 2), or iatrogenic male fibroadenomas due to estrogen therapy for a medical condition in the elderly such as prostate carcinoma (3). Benign conditions such as gynecomastia, lipoma, epidermal inclusion cysts, and intraductal papilloma may mimic male breast cancer (4, 5). This article will attempt to highlight the truth behind the entity of fibroadenoma in males.

## CASE SERIES

Over the last few years, we have come across 3 male cases with a breast lump. All patients were in the 18-23 years of age group. They were residing in different parts of the state of Madhya Pradesh and Chattisgarh. These patients presented with similar complaints of a lump in the breast (1: right subareolar, 2: right subareolar, 3: left subareolar) that has gradually been increasing in size since the last 1-2 years. The patients have ignored the lumps at first, and then consulted when the lump was large enough to be visible. There was no associated nipple discharge or ulceration in any of the cases. There was no history of any drug intake or other signs of any carcinoma, and no history of axillary swellings. The patients were born uneventfully after a full-term normal vaginal pregnancy. There was no family history suggestive of any other cardiac or cutaneous myxomas. The boys had attained sexual maturity at the ages of 14, 14 and 15 respectively. All other secondary sexual characters were normal and serum examination of hormonal profile was within normal limits.

These patients had soft, firm lumps in the breast measuring 2 x 2 cm, 4 x 3 cm and 2 x 1 cm, in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> patients, respectively, as described in the above paragraph. All the lumps were freely mobile and not fixed to the skin or underlying fascia. The surface of the lumps were lobulated.

Only the first patient underwent ultrasound that revealed a 2 x 2 cm solid, hypo-echoic, homogenous and well circumscribed mass (Figure 1). Fine needle aspiration cytology was done on all three patients on the lump which was suggestive of fibroadenoma (Figure 2).

Informed consent was obtained from all three patients, and they were subsequently investigated further and treated. Along with the regular information regarding their disease and the possible treatment options with benefits and risks, they were informed that we would be using their findings and treatment anonymously in some of our publications.

All three patients underwent simple nipple sparing subcutaneous mastectomy with lumpectomy by a periareolar incision (Figures 3, 4). This was done to rule any other possibilities of fibrocystic disease, for cosmetic purposes, and to differentiate between gynecomastia and fibroadenoma on histology.

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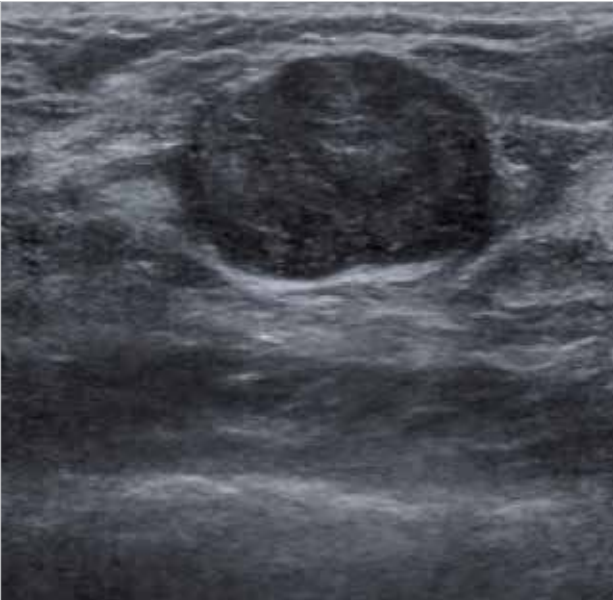


Figure 1. Ultrasonography showing fibroadenoma in the breast in the second patient



Figure 4. Gross specimen of the 3<sup>rd</sup> patient with a lump in the centre of gynecomastia

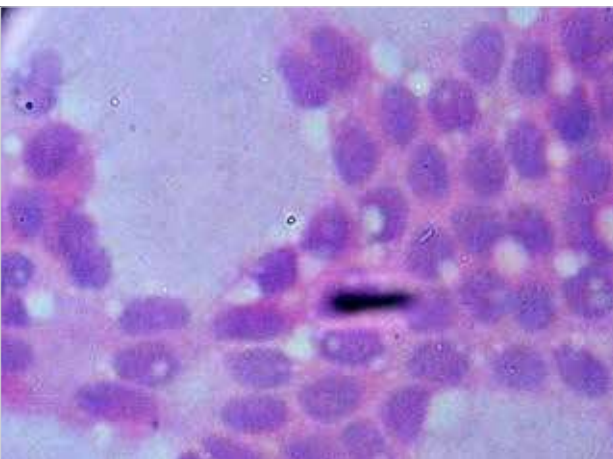


Figure 2. Fine needle aspiration cytology suggestive of fibroadenoma

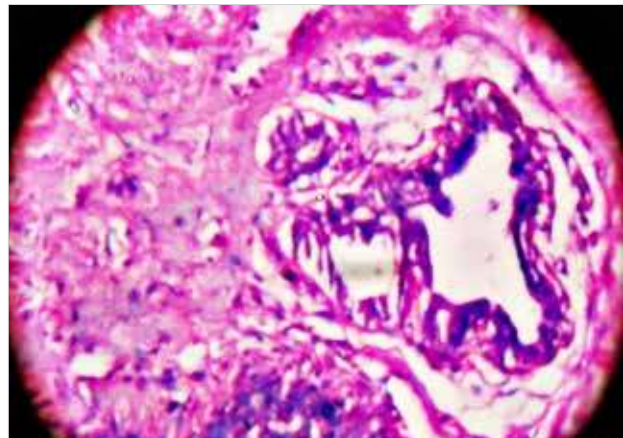


Figure 5. Histopathology suggestive of fibroadenoma in the 3<sup>rd</sup> patient



Figure 3. On operating table view of the 2<sup>nd</sup> patient showing a right breast lump

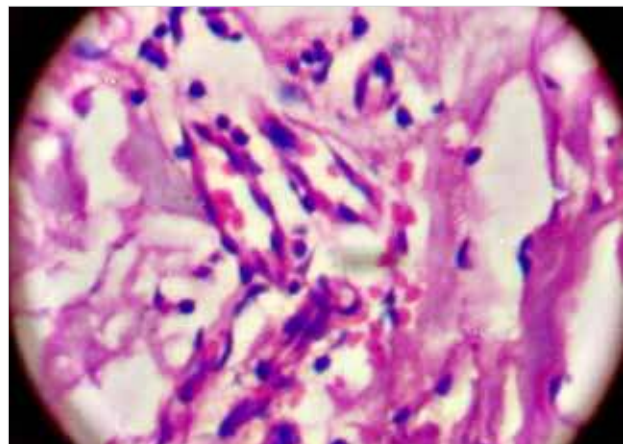


Figure 6. High magnification of histopathology evaluation suggestive of fibroadenoma in the 3<sup>rd</sup> patient

The histology showed florid ductal hyperplasia and focal secretory hyperplasia (Figures 5, 6). There were almost equal portions of epithelial and stromal components. The epithelial component of the rest of the breast speci-

men showed gynecomastia. The histopathology reports on all the patients were similar. Hence they were finally confirmed and diagnosed as male patients having fibroadenoma.

## DISCUSSION

Fibroadenomas in the male breast are rare with only a few reported cases. Histologically, subareolar ducts are demonstrated in the normal male breast similar to those found in pre-pubertal girls (6). Holleb et al. (7) concluded that there was no true fibroadenoma of the male breast. It has been concluded by some authors that most of the reported lesions are poorly documented and nodular foci of gynecomastia have been reported as fibroadenomas (1). However, it is now apparent that fibroadenomas in the male breast are true events because there have been some reports in which fibroadenomas were well documented. Fibroadenomas have both estrogen and progesterone receptors (8). It has been discussed that proliferative changes in the male breast, like gynecomastia, lobular differentiation, and fibro-epithelial lesions are caused by hormonal imbalances and some medications. In the literature, fibroadenoma in the male breast appear to be always associated with gynecomastia. Shin and Rosen (9) could not find any reports of fibroadenoma in male patients who did not have concurrent gynecomastia. However, the presence of lobular differentiation with or without associated gynecomastia is less common (9). Lobular differentiation and fibroadenomas were found in two reported cases of male to female transsexuals who were undergoing demasculinization and feminization by hormonal therapy using ethinyl-oestradiol and cyproterone acetate and surgical treatment (10). Davis et al. (8) reported a case of a 19-year-old female with complete androgen insensitivity syndrome (CAIS) and a fibroadenoma of the breast. Four cases of male fibroadenomas have been reported in which gynecomastia with lobular differentiation was present in each case (11). One of the four patients had been treated with estrogens, whereas another patient had been treated with methyl dopa and chlordiazepoxide. As Asscheman et al. (12) reported, there are genetic differences in estrogen sensitivity to dopaminergic regulation of prolactin secretion, and in the latter case, methyl dopa was thought to play a role. For the other two patients, the possible causes of fibroadenoma formation remained elusive. In our cases, the presence of lobular differentiation was carefully sought; however, not found. In idiopathic pre-pubertal or senile gynecomastia, the increase in the plasma estrogen-to-androgen ratio usually will not induce acinar and lobular formation in the male breast. However, in transsexuals, in whom progestagenic antiandrogens, such as cyproterone acetate, are combined with feminizing estrogen therapy, then acini and lobular formation will occur (9, 13). The use of a luteinizing hormone-releasing hormone agonist to decrease testosterone levels for the treatment of advanced prostate cancer has contributed to the development of gynecomastia and fibroadenoma (9). Gynecomastia has also been associated with digitalis and spironolactone (14), which interfere with the production of testosterone and its conversion to the potent metabolite, 5- $\alpha$ -dihydrotestosterone (4, 10). Cimetidine is also a precursor of gynecomastia (15). Fibroadenomas in men without hormone treatment and with normal hormone levels are extremely rare. There is a report of single case of a man who had a fibroadenoma of the breast, gynecomastia, adenocarcinoma of the rectum, and polyposis coli, in which, the causative agent of the fibroadenoma was unknown and the development mechanism of the breast fibroadenoma

was under question (16). Similarly, in all our cases, the patients did not have any causative factors as theorized until today and remains to be idiopathic. Leonard M Glassman, MD, had commented that “do not diagnose fibroadenoma in men even if it looks like fibroadenoma, and when you get such a biopsy result get another pathologist”, but now we think that in the presence of very conclusive 3 cases, fibroadenoma in the breast can be seen in males and can be idiopathic.

## CONCLUSION

In spite of the limited number of cases, taking the low prevalence of this particular pathology into consideration, it can be stated that idiopathic fibroadenoma in males is a possibility.

**Informed Consent:** Written informed consent was obtained from patients who participated in this study.

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## REFERENCES

1. Rosen PP. Benign proliferative lesions of the male breast. In: Rosen PP. ed. *Rosen's Breast Pathology*. 2nd ed. Philadelphia, Pa: Lippincott Williams and Wilkins, 2001: 703-712.
2. Lemmo G, Garcea N, Corsello S, Tarquini E, Palladino T, Ardito G, et al. Breast fibroadenoma in a male-to-female transsexual patient after hormonal treatment. *Eur J Surg Suppl* 2003; 588: 69-71.
3. Chen L, Chantra PK, Larsen LH, Barton P, Rohitopakarn M, Zhu EQ, et al. Imaging characteristics of malignant lesions of male breast. *Radiographic* 2006; 26: 993-1006. [\[CrossRef\]](#)
4. Asscheman H, Gooren LJG. Hormone treatment in transsexuals. *J Psychol Human Sexual* 1992; 5: 39-54. [\[CrossRef\]](#)
5. Appelbaum AH, Evans GF, Levy KR, Amirkhan RH, Schumpert TD. Mammographic appearances of male breast disease. *Radiographic* 1999; 19: 559-568. [\[CrossRef\]](#)
6. Kopans D. *Breast imaging*, 3rd Edition. Pa: Lippincott Williams and Wilkins, 2007. Pp. 671-672.
7. Holleb AI, Freeman HP, Farrow HJ. Cancer of male breast, part II. *N Y State J Med* 1968; 68: 656-663. [\[CrossRef\]](#)
8. Davis SE, Wallace AM. A 19 year old with complete androgen insensitivity syndrome and juvenile fibroadenoma of the breast. *Breast J* 2001; 7: 430-433. [\[CrossRef\]](#)
9. Shin SJ, Rosen PP. Bilateral presentation of fibroadenoma with digital fibroma-like inclusions in the male breast. *Arch Pathol Lab Med* 2007; 131: 1126-1129.
10. Kanhai RC, Hage JJ, Bloemena E, van Diest PJ, Karim RB. Mammary fibroadenoma in a male-to-female transsexual. *Histopathology* 1999; 35: 183-185. [\[CrossRef\]](#)
11. Ansah-Boateng Y, Tavassoli FA. Fibroadenoma and cystosarcoma phyllodes of the male breast. *Mod Pathol* 1992; 5: 114-116.
12. Asscheman H, Gooren LJG, Assies J, Smits JPH, de Slegte R. Prolactin levels and pituitary enlargement in hormone-treated male-to-female transsexuals. *Clin Endocrinol* 1988; 28: 538-588. [\[CrossRef\]](#)
13. Kankai RC, Hage JJ, van Diest PJ, Bloemena E, Mulder JW. Short-term and long-term histologic effects of castration and estrogen

- treatment on breast tissue of 14 male-to-female transsexuals in comparison with chemically castrated males. *Am J Surg Pathol* 2000; 24: 74-80. [\[CrossRef\]](#)
14. Nielsen BB. Fibroadenomatoid hyperplasia of the male breast. *Am J Surg Pathol* 1990; 14: 774-777. [\[CrossRef\]](#)
  15. Rodriguez LA, Jick H. Risk of gynaecomastia associated with cimetidine, omeprazole, and other antiulcer drugs. *BMJ* 1994; 19: 503-506.
  16. Adibelli ZH, Yildirim M, Ozan E, Oztekin O, Kucukzeybek B. Fibroadenoma of the breast in a man associated with adenocarcinoma of the rectum and polyposis coli. *JBR-BTR* 2010; 93: 12-14. [\[CrossRef\]](#)