

## **A Rare Case of Multiple Bilateral Fibroadenoma in a Young Woman: A Case Report and Literature Review**

**Evan Savero<sup>1</sup>, Chandra A. Tambunan<sup>2</sup>, Rickky Kurniawan<sup>3</sup>, Udi Suhono<sup>4</sup>**

<sup>1,3,4</sup>General Practitioner, Bendan Regional General Hospital, Pekalongan City, Central Java, Indonesia

<sup>2</sup>General Surgeon, Bendan Regional General Hospital, Pekalongan City, Central Java, Indonesia

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### **ABSTRACT**

**Background:** Fibroadenoma is the most common type of breast tumor diagnosed in young women, in children and adolescents it is called juvenile fibroadenoma. These tumors often result in emergence, self-confidence, and anxiety in adolescents.

**Case Report:** A 21-year-old female patient came to the surgical clinic with lumps in the right and left breasts since about 4 years ago. History and physical examination showed the right and left breast tumors were suspiciously benign. Ultrasound results showed multiple hypoechoic (solid) lesions, on the right breast the largest size was 4 cm, with BIRADS 2, the left breast the largest size was 3.5 cm, with BIRADS 2. The patient then underwent surgical excision of the tumor and performed histopathological examination. The results of histopathological examination provide an overview of fibroadenoma.

**Conclusion:** The presentation of the case report from the authors hopes to expand the literature and provide insight into multiple fibroadenoma and the need for anamnesis, comprehensive physical examination, accompanied by ultrasonography to FNA in a young female patient who has a lump in the breast.

**KEYWORDS:** Bilateral multiple fibroadenoma, young woman

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### **ARTICLE DETAILS**

**Published On:**  
**28 October 2022**

**Available on:**  
<https://ijmscr.org/>

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### **INTRODUCTION**

Fibroadenoma is the most common type of breast tumour diagnosed in young women. Fibroadenoma found in children and adolescents is often referred to as juvenile fibroadenoma. Management of juvenile fibroadenoma may include surgical resection or observation because 10-59% of tumor lesions will regress. Benign tumours have a tendency to grow rapidly which results in self-confidence, anxiety.<sup>1</sup> This results in unsatisfactory interactions with other people and has a considerable impact on the psychological and emotional state of the patient. It is necessary to look at other conditions of fibroadenoma with other diseases such as physiologic hypertrophy, phyllodes tumour, and inflammatory processes such as breast abscess.<sup>2</sup> In this presentation, we would like to present a 21-year-old case with bilateral multiple fibroadenoma.

### **CASE REPORT**

A 21-year-old female patient came to the surgical clinic with a lump in the right and left breasts since about 4 years ago.

The patient felt a lump near the right and left nipples, the lump was felt as big as a marble. The lump is felt hard, does not hurt when pressed, the same color as the surrounding skin, does not feel hot, does not come out of liquid from the nipple. The lump enlarges and feels painful when the patient is menstruating, then the lump will shrink when the patient finishes menstruation. The lump is getting bigger and bigger as time goes by until it is as big as a ping pong ball, feels supple, does not hurt when pressed, can be moved, and there are no wound. There is no weight loss. No fever, no cough, no shortness of breath, no loss of appetite, no nausea and vomiting. The patient then decided to check himself at the Bendan, Pekalongan Hospital

The patient had never experienced a disease like this before, a history of using contraception, exposure to radiation, previously malignancy was denied. The patient's aunt had breast cancer. History of the first menstruation at the age of 13 years (grade 1 junior high school). The patient is not married, and has no children. The patient is currently a

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high school student, living with parents, financing with Social Health Insurance Administration Body.

On physical examination, the patient's general condition appeared ill, composmentis consciousness. The vital signs, respiratory rate, 18x/minute, pulse rate 79x/minute, blood pressure 110/70mmHg, axillary temperature 36.5C, pain scale VAS 1. Physical examination revealed appearance from head to toe was within normal limits. Local examination of the right breast, which found 4 lumps, each measuring 4 cm in diameter in the area around the nipple, 3 cm at 2 o'clock, 2 cm at 11 o'clock, and 1.5 cm at 8 o'clock with hard consistency, firm boundaries, mobile, flat surface, the same color as the surroundings, no discharge from the nipple, no nipple retraction, no *peau de orange*, no tissue discontinuities, the temperature is the same as around. On examination of the localized status of the left breast, there were 2 round lumps, each measuring 3.5 cm in diameter at 11 o'clock and 2 cm at 2 o'clock, hard consistency, firm boundaries, mobile, flat surface, the same color as around, no discharge from the nipple, no nipple retraction, no *peau de orange*, no tissue discontinuity, palpation of temperature is

the same as around, no palpable enlargement of lymph nodes in axilla, infraclavicular, and supraclavicular.

The patient underwent supporting examinations in the form of blood tests, and ultrasound of the right and left breasts. From the results of the blood examination, the results obtained were hemoglobin 13.0 g/dL, leukocytes 10.400/uL, platelets 358.000/uL, erythrocytes 4.610.000/uL, PT/APTT 10.2 seconds/ 27.6 seconds, non-reactive HBsAg. From the results of ultrasound examination of the right mammary, it was found that there were multiple hypoechoic (solid) lesions, the largest in retro and periareola (the size was not reached by the probe), relatively oval shape, well defined, calcified (-), axis parallel to the skin, wider than taller orientation, on CDS not hypervascular, non-thickened cutis and subcutis, classified as BIRAD Score 2. On the left mammary multiple hypoechoic (solid) lesions were found, the largest at 10-11, 3 cm from the nipple (measured 3.30 cm) relatively oval shape, well defined, calcified (-), axis parallel to skin, wider than taller orientation, not hypervascular on CDS, not thickened sub cutis cutis, classified as BIRAD Score 2.



Figure 1. Ultrasound results of right and left mammary

From the anamnesis, physical examination, and investigations, the patient was diagnosed with multiple right and left breast tumours that were suspiciously benign. The patient was planned for tumour excision and histopathological examination. The patient underwent surgery on June 16, 2022. The patient slept in a supine position under general anesthesia, performed asepsis and antisepsis in the operating area, made incisions on surgical

markers, deepened layer by layer, exposed the tumour capsule and freed it from the surrounding tissue. Remove the tumor mass in the right breast with a diameter of 4 cm, 3 cm, 2 cm, 1.5 cm, on the left breast with a diameter of 3.5 cm and 2 cm, then the tissue was sent to the histopathology laboratory. Wash the wound with NaCl, treat the bleeding, suture layer by layer, the operation is complete.



Figure 2. Tumor before surgery



Figure 3. Tumor removed

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After surgery the patient received medication in the form of injection of cefuroxin 1gram/12 hours, injection of ketorolac 30mg/8hours, injection of tranexamic acid 500mg/8hours, maintaining elastic bandage, normal diet.

After 2 days of treatment, the patient's general condition looked good, the wound condition looked like a surgical wound, no seepage was found. The patient was recommended for control to the general surgery poly the following week.



**Figure 4. Wounds after surgery**

From the results of histopathological examination, macroscopically, several pieces of tissue with a diameter of 1 cm to 3 cm were seen, white, dense, supple, microscopically fibroepithelial lesions with stroma of fibromyxoid tissue containing acini above normal, tubular shape to elongated flat, lined with simple cuboidal epithelium and myoepithelial cells. forming a pericanalicular and intracanalicular pattern with the distribution of lymphocytes, histiocytes, and macrophages. No mitoses found, no signs of malignancy, conclusion: benign breast tumour fibroadenoma mammae right and left.

### DISCUSSION

Fibroadenoma is a benign lesion of the breast that usually presents as a single breast mass in young women. These lesions are assumed to be deviations from normal breast development resulting from a hyperplastic process, not as true neoplasms. Clinicians often face uncertainty about whether to remove the mass or monitor it through regular follow-up examinations. Although removal of this lesion is the definitive solution, excision may not be necessary and result in an unfavorable esthetic result. In addition, the policy of performing surgery on fibroadenoma patients will place a huge cost burden on the health care system.<sup>3</sup>

According to the Stanford School of Medicine, adolescent fibroadenoma is defined as a circumscribed breast mass that can occasionally grow large, which usually occurs in adolescent women with stromal and epithelial hypercellularity but lacks the leafy growth pattern of a phyllodes tumor. The diagnostic criteria for juvenile fibroadenoma are (1) limited and rarely multiple; (2) biphasic stromal and epithelial processes in which the pericanalicular pattern is most common and lacks a leaf-like growth pattern in the hypercellular stroma; (3) lack of atypical features of increased stromal-like periductal cellularity, stromal overgrowth, atypical cytology, and mitotic rate  $>3/hpf$ ; (4) frequent epithelial and myoepithelial hyperplasia; (5) the age of most patients is 10-20 years with a mean age of 15 years.<sup>4</sup>

Fibroadenoma usually forms during menarche (15-25 years), when lobular structures develop into the ductal

system of the breast. In this case, the lump appeared when the patient was 17 years old which grew bigger as she got older. Hyperplastic lobules are common at this time, and can be considered a normal phase of breast development.<sup>5</sup> Hyperplastic lobules are histologically identical to fibroadenomas. Analysis of the cellular components of fibroadenomas by polymerase chain reaction (PCR) showed that the stromal and epithelial cells were polyclonal, thus supporting the theory that fibroadenomas are hyperplastic lesions associated with normal maturation deviations of the breast, not true neoplasms.<sup>6</sup>

Fibroadenoma is most often detected incidentally during a medical examination or during a self-examination, which is found as a solitary breast mass separated by 1 to 2 cm. Although these lesions can be found anywhere in the breast tissue, they are mostly located in the superolateral quadrant. Fibroadenoma usually has a smooth surface, is mobile, is not tender, and has a rubbery consistency.<sup>7</sup> Several other breast lesions have similar characteristics, and physical examination provides an accurate diagnosis in only half to two thirds of cases. Although sometimes a breast mass can be misdiagnosed by palpation as a fibroadenoma, histological examination will reveal another benign form of breast disease, such as cystic fibrosis. In this case, the patient realized that his breast had an abnormal lump, which on physical examination found more than 1 lump in the right or left breast.<sup>8</sup>

From 10% to 16% of patients with multiple fibroadenoma have two to four lesions in one breast, which may appear simultaneously or develop over several years. The etiology of multiple breast fibroadenomas is still unknown, whereas a relationship between multiple fibroadenomas and oral contraceptives has been proposed but has not been well studied. In addition, other possible etiologies are imbalanced estrogen levels, hypersensitivity of breast tissue to estrogen, dietary factors, or inherited predispositions. Increased sensitivity to estrogen can further lead to hyperplasia of the mammary glands and even the development of carcinoma. Unlike women with single fibroadenomas, most patients with multiple fibroadenomas

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have a strong family history of these tumors. The patient in this case had a family history where the patient's aunt had a similar lump in the breast. Meanwhile, the relationship between multiple fibroadenoma and the use of oral contraceptives is still being debated.<sup>9</sup>

Investigations in the form of breast sonography are often used for the diagnosis of fibroadenoma. Sonographic criteria that support the diagnosis of fibroadenoma are round or oval solid masses with smooth contours in uniform distribution and intermediate level of echogenicity. These supports are very useful in differentiating between solid and cystic lesions. There is some overlap in the sonographic criteria for fibroadenoma and for breast cancer, approximately 25% of sonographic examinations of fibroadenoma present with irregular borders, which may imply that the lesion is malignant.<sup>10</sup>

According to The American Society of Breast Surgeon, traditional management for women diagnosed with fibroadenoma can be observation or surgical excision. However, in most patients with fibroadenoma, the ideal approach is confirmation by biopsy, followed by conservative follow-up, because the malignant potential of fibroadenoma is so low that oncological treatment is not required. But for some patients fibroadenoma can cause a physical deformity, resulting in discomfort and emotional distress. On this basis, most surgeons will respect the patient's preference for excisional biopsy. An excisional biopsy is an effective treatment but is the most expensive option. But excision may still be the best option in some cases based on the size of the fibroadenoma or the surgeon's judgment. This patient underwent tumor excision to confirm the diagnosis as fibroadenoma as well as treatment, seeing that in this case the number of lumps in the patient's breast was multiple. However, this approach may result in unwanted scarring or extensive ductal damage especially when all fibroadenomas are excised through a single incision.<sup>11</sup>

### CONCLUSION

The amount of literature regarding multiple fibroadenoma of the bilateral breast is still very small. The presentation of this case report from the authors hopes to expand the literature and provide insight into multiple fibroadenoma. In addition, the need for a history, a comprehensive physical examination, accompanied by ultrasound to FNA in a young female patient who has a lump in the breast. If the diagnosis of multiple fibroadenoma can be made, the recommendations state that the management of women with multiple fibroadenomas is the same as for women with single lesions, and excisional biopsy is recommended for any masses for which the diagnosis is unclear.

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