



Multiple Fibroadenomas in Bilateral Breasts of A 20-Year-old Woman – A Rare Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. Author VA designed the study and wrote the first draft of the manuscript. Authors AKR wrote the protocol, managed the analyses of the study, Author GSR managed the cytological and histopathological sections of the study. Author SR managed the case history and literature searches. All authors read and approved the final manuscript.

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Case study

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ABSTRACT

Introduction: Fibroadenomas are the most common tumours of the female breast, occurring most frequently in women of child-bearing age, especially those under 30 years.

Presentation of Case: We report a case with a total no of 25 fibroadenomas presenting bilaterally of a 20-year-old woman. The clinical and histopathologic features of the fibroadenomas are described.

Discussion: Most fibroadenomas are present as a single mass, however, the presence of multiple fibroadenomas can be seen in 15–20% of the patients. It has been reported that the average number of masses in cases of multiple fibroadenomas is 2–4 in a single breast but the occurrence of more than five fibroadenomas in an individual patient is very less common.

Conclusion: There are few reports of multiple fibroadenomas. We report this case in hoping to expand the literature and to provide insight into the etiology of multiple fibroadenoma formation and advice on management.

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1. INTRODUCTION

Fibroadenomas are benign tumours which are made up of epithelial and fibrous tissues. Fibroadenomas are among the most common tumours of the female breast, occurring most commonly in women of child-bearing age, especially those under 30 years. In the adolescent population, the overall incidence of fibroadenoma is 2.2%. [1,2] They account for 68% of all breast masses and 44%–94% of all biopsied breast lesions [3,4]. Most present as a single mass, however the presence of multiple fibroadenomas can be seen in 15–20% of patients [5]. It has been reported that the average number of masses in cases of multiple fibroadenomas is typically 2–4 in a single breast but the occurrence of more than five fibroadenomas in an individual patient is much less common [6].

The exact etiology of multiple breast fibroadenomas have not been clearly defined but incidence tends to be higher in the female on hormonal contraceptives. The triple test for breast diseases using clinical assessment, imaging and histological analysis helps investigate the breast lumps including the multiple varieties. Complete excision of the breast lumps in the affected female is recommended. This case report aims to document a case of multiple bilateral breast fibroadenomas in a young Indian woman.

2. CASE HISTORY

A 20-year-old woman presented with multiple lumps in both breasts. which she first noticed one year earlier. The patient attained menarche at the age of 13 years and she had an irregular menstrual cycle till the age of 18 but after marriage, she had a regular menstrual cycle. She had been not exposed to any chemicals or harmful materials and had never taken any oral contraceptives or other medications. The family history was otherwise unremarkable. She had no other co-morbidities at present. Physical examination revealed that two enlarged breasts with symmetrical nipples and no retraction or haemorrhage. The overlying skin was normal and not associated with any lymphadenopathy.

Within both breasts, there were many palpable, non-tender masses throughout all the quadrants, ranging from less than 1 cm to 5 cm in size. The masses were well-circumscribed with smooth surfaces, regular margins, firm in consistency

and mobile. There were no other lumps. Ultrasonography showed multiple solid masses that had a clear envelope like appearance and relatively uniform echoes. Fine needle aspiration cytology showed predominantly cohesive cluster and sheets of benign ductal epithelial cells, few showing apocrine changes, numerous bare bipolar nuclei and fragments of fibromucoid stroma in the background, cytomorphological features are in favour of benign breast disease possibly fibroadenoma. Routine laboratory testing including sexual hormone level showed no abnormality. The patient underwent excisions of all palpable masses from both the breasts. The masses were round to oval in shape, encapsulated. There were 16 masses excised from both breasts (5 from the right breast and 11 from the left breast), sizes ranging from 0.5 cm × 0.5 cm × 1 cm to 3 cm × 3 cm × 4 cm. (Fig. 1). The cut sections of the masses showed greyish white with a rubbery texture. On microscopic examination, Various sections studied shows biphasic proliferation of benign ductal and stromal cells arranging in Peri and Intra canalicular pattern. At some places focal cysts formation and apocrine changes also seen. Histomorphological features are of Benign breast disease-Fibroadenoma.



Fig. 1. Masses excised from both breasts with a total number of 16

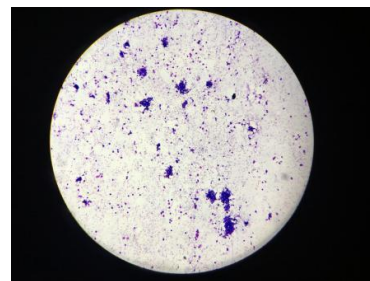


Fig. 2. Representative cytological sections from the fibroadenomas.: Low power view showing numerous clusters and ducts along with bare bipolar nuclei. (Giemsa stain)

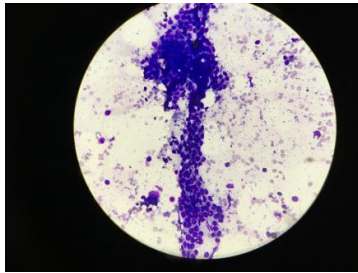


Fig. 3. Representative cytological sections from the fibroadenomas: Higher magnification view showing the irregular tight cluster of benign ductal epithelial cells and scattered bare bipolar nuclei. (Giemsa stain)

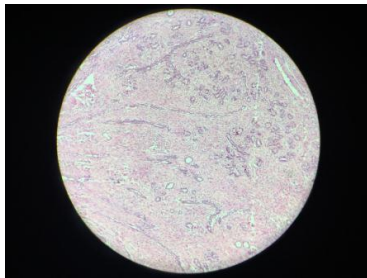


Fig. 4. Representative histological sections from the fibroadenomas: Low power view showing pericanalicular and intracanalicular pattern of arrangement. (H & E stain)

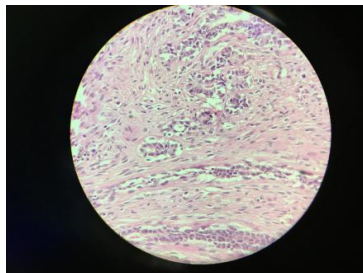


Fig. 5. Representative histological sections from the fibroadenomas: High power view showing proliferation of benign ductal epithelial and stromal cells. (H & E stain)

3. DISCUSSION

Most fibroadenomas present as a single mass, although the presence of multiple fibroadenomas can be seen in 15–20% of the patients. No genetics factors are known to alter the risk of fibroadenoma. However, a family history of breast cancer in first-degree relatives to be related to an increased risk of developing these tumours [7,8]. Most of the patients with multiple fibroadenomas have a strong family history of these tumours.

The etiology of multiple breast fibroadenomas has not yet been established. A possible connection between multiple fibroadenomas and oral contraceptives was proposed but not well investigated till date [9]. Other possibilities include the imbalance of in vivo oestrogen levels, hypersensitivity of local breast tissue to dietary factors, oestrogen, or inherited predisposition. The increased sensitivity to estrogen may subsequently lead to mammary gland hyperplasia and even the development of the carcinoma. A study of a large group of women with fibroadenoma revealed that the overall prevalence of atypical epithelial hyperplasia within fibroadenomas was 0.8% and only around 7% of women with atypia developed the invasive carcinoma on follow-up [10]. Therefore, patients with fibroadenomas may have a slightly increased risk of developing breast cancer.

The pathogenesis of the formation of numerous breast fibroadenomas in this patient is unknown. With increasing age, the risk of carcinomatous degeneration in fibroadenomas rises to 17% [11]. This necessitates excision of all such tumours. The surgical treatment of choice of fibroadenoma in this patient is breast-conserving, however, multiple fibroadenomas pose a particular challenge. The preferred management of the multiple fibroadenomas is complete excision. However, this approach can lead to undesirable scarring and extensive ductal damage if all the fibroadenomas are excised through one incision [12,13].

Giant fibroadenomas tend to shrink after cessation of lactation, so their complete removal can be delayed until the patient's hormonal status returns to normal, and a smaller excision can be performed [14,15].

The Gaillard-Thomas incision is a reliable method for removal of the multiple breast lumps with good cosmetic outcomes. The semicircular submammary Gaillard-Thomas incision which was used in this case was first described in 1882 and has subsequently been modified by others. It is usually made at the margin of the breast and multiple lumps can be removed using this method without making multiple incisions on the breast. The Ribeiro and Rezai technique has been also used by others in the surgical management of the multiple bilateral fibroadenomas of the breast, Prognosis following surgical management is good.

Follow up: Patients should undergo regular follow-up to assess complications, measure

outcomes, and to evaluate the need for subsequent surgery. Throughout the treatment, patients should be counselled about the benign nature of the mass, the different surgical and nonsurgical approaches, and the need for continued follow-up to determine if additional surgery is necessary.

4. CONCLUSION

There is scant literature regarding the multiple fibroadenomas in bilateral breasts. We report this case in hoping to expand the literature and to provide insight into the etiology of multiple fibroadenoma formation and advice on the management of multiple fibroadenomas.

CONSENT

As per international standard or university standard, patient's consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard guideline written ethical approval has been collected and preserved by the author(s).

Competing interests

Authors have declared that no competing interests exist.

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