



Rare Presentation of Fibroadenoma in The Axilla: A Case Series

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ABSTRACT:

Background: Fibroadenoma is a common benign breast tumor, most frequently occurring within the breast parenchyma. Its occurrence in the axilla is rare and usually arises from ectopic or supernumerary breast tissue along the embryonic milk line. Due to its uncommon location, axillary fibroadenoma can be misdiagnosed as lymphadenopathy or other soft tissue lesions.

Methods: We report a retrospective case series of three female patients aged 25–32 years presenting with axillary masses of varying sizes (2–3 cm) and durations of 6–18 months. All patients underwent fine-needle aspiration cytology (FNAC), which suggested fibroadenoma. Complete surgical excision was performed in all cases, and histopathological examination confirmed the diagnosis.

Results: Clinically, the masses were firm, mobile, and well-circumscribed. FNAC revealed moderately to highly cellular smears with ductal epithelial cells in a fibromyxoid stroma. Histopathology showed the characteristic biphasic pattern of fibroadenoma, with slit-like spaces lined by ductal and myoepithelial cells compressed by stroma, without atypia or malignancy. All patients had an uneventful postoperative course, and no recurrences were noted during follow-up.

Conclusion: Axillary fibroadenoma is a rare benign lesion arising from ectopic breast tissue. Awareness of this entity is essential to avoid misdiagnosis and overtreatment. FNAC is useful for preliminary evaluation, but histopathology remains definitive. Surgical excision is curative, with excellent outcomes and minimal risk of recurrence.

INTRODUCTION:

Fibroadenomas are common benign tumors of the breast, usually seen in young women within the normal breast tissue. Rarely, these tumors can develop in the axilla, typically arising from accessory or ectopic breast tissue that persists along the embryonic milk line [1–4]. Accessory breast tissue occurs when the mammary ridge fails to regress completely during embryonic development and can be located anywhere from the axilla to the groin, with the axilla being the most frequent site [2, 3, 5].

Clinically, axillary fibroadenomas usually present as painless, well-defined, mobile masses, and may be mistaken for lymph nodes, lipomas, or other soft tissue lesions [3, 5, 6]. Imaging studies such as ultrasonography and mammography may suggest benign characteristics but are not sufficient for a definitive diagnosis [6, 12, 16]. Confirmation is achieved through histopathological examination, which

typically reveals the classic combination of epithelial and stromal proliferation without cellular atypia [5, 6, 11].

Although uncommon, axillary fibroadenomas should be considered in the differential diagnosis of axillary masses. Surgical removal is usually curative, and recurrence is rare [5, 14]. Given the limited number of reported cases, this series aims to describe the clinical presentation, imaging features, and histopathological characteristics of axillary fibroadenomas encountered at our tertiary care centre.

CASE PRESENTATION:

We report a series of three cases of axillary fibroadenoma (Fig. 1), initially diagnosed on fine-needle aspiration cytology (FNAC) and subsequently confirmed by histopathology.

Case 1: A 28-year-old female presented with a swelling in the left axilla that she had noticed six months prior.



The mass had gradually increased in size from a small nodule to approximately $2.5 \times 2 \times 2$ cm. The patient reported mild discomfort only when lying on her side, but the lesion was otherwise painless. On examination, the mass was firm, well-circumscribed, freely mobile, and non-adherent to the overlying skin or underlying structures. No regional lymphadenopathy was noted.

Case 2: A 32-year-old female presented with a right axillary mass that she had observed for one and a half years. The swelling had slowly increased in size to $3 \times 2 \times 1.5$ cm. The patient reported occasional mild tenderness, particularly during menstruation. On palpation, the mass was firm, mobile, and non-tender, with smooth margins. No skin changes, nipple discharge, or systemic symptoms were present.

Case 3: A 25-year-old female presented with a $3 \times 3 \times 2.5$ cm mass in the left axilla, present for one year. She reported noticing gradual enlargement over this period and mild discomfort while wearing tight clothing. On clinical examination, the mass was firm, slightly tender, freely mobile, and well-defined. No signs of inflammation or lymph node enlargement were observed.

All three patients underwent complete surgical excision of the axillary masses under local or general anaesthesia. The excised specimens were sent for histopathological evaluation, which confirmed fibroadenoma in all cases. The histology demonstrated the typical biphasic pattern of epithelial and stromal proliferation without any evidence of atypia or malignancy. During a follow-up period of six months to one year, none of the patients experienced recurrence, and postoperative recovery was uneventful.

Investigations

All three patients initially underwent fine-needle aspiration cytology (FNAC) of the axillary masses. The smears in each case were moderately to highly cellular, showing cohesive sheets and clusters of benign ductal epithelial cells. The background contained a fair number of bipolar nuclei along with fibromyxoid stroma. These cytological findings were consistent with a diagnosis of fibroadenoma and suggested the benign nature of the lesions (Fig. 2). FNAC served as a useful preliminary investigation, helping to guide surgical management.

Histopathology

Following FNAC, all patients underwent complete surgical excision of the axillary masses. Histopathological examination confirmed fibroadenoma arising from ectopic breast tissue in the axilla. The specimens showed characteristic biphasic architecture, with slit-like spaces lined by ductal and myoepithelial cells embedded within a well-developed fibrous stroma (Fig. 3). No cellular atypia or malignant features were observed. These findings were consistent with the cytological impressions and confirmed the diagnosis, reinforcing that excision is both diagnostic and curative.

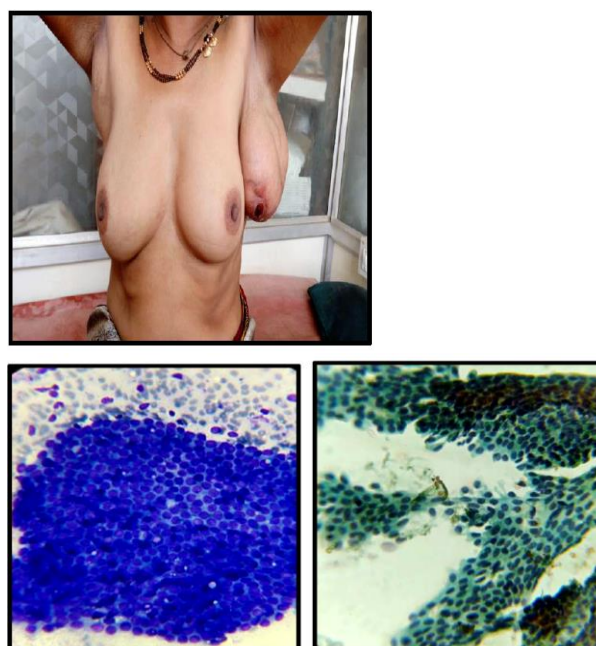


Fig 1: a) Lump in Axilla b) FNAC showing Fibroadenoma (MGG & PAP 400x)

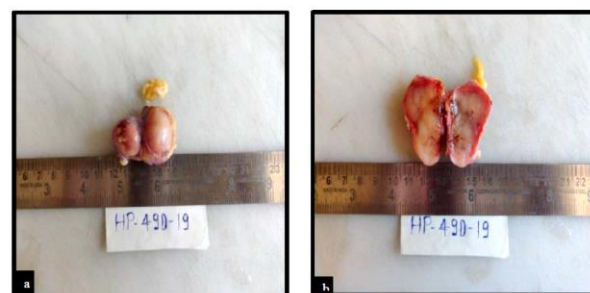


Fig 2: Gross photograph of Fibroadenoma a. Out surface b. Cut section

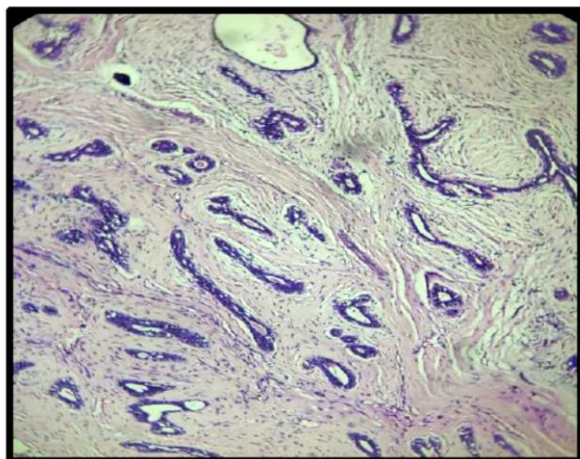


Fig 3: Microphotograph of Fibroadenoma (H & E, x400)

DISCUSSION

Fibroadenomas are common benign breast tumors, but their occurrence in the axilla is rare, usually arising from ectopic or supernumerary breast tissue along the embryonic milk line [1–4]. Supernumerary breast tissue results from incomplete regression of the mammary ridge during embryonic development and can be located anywhere from the axilla to the groin, with the axilla being the most frequent site [2,3,5].

Clinically, axillary fibroadenomas present as firm, mobile, and usually painless masses, often leading to confusion with lymphadenopathy, lipoma, or other soft tissue lesions [3, 5, 6]. In our series, two patients had painless masses, while one reported mild tenderness associated with clothing pressure, a finding occasionally reported in the literature [5, 6]. The gradual enlargement of these masses over months to years, as seen in our patients, is consistent with previous reports [5, 11,16].

Imaging modalities such as ultrasonography and mammography are helpful in assessing lesion characteristics and ruling out malignancy, though they cannot definitively diagnose fibroadenoma in ectopic breast tissue [6, 12, 16]. FNAC in our series provided a preliminary diagnosis by demonstrating moderate to highly cellular smears with sheets and clusters of benign ductal epithelial cells in a fibromyxoid stroma, similar to findings reported by Goyal et al. and Ravikanth et al. [5,6].

Histopathology remains the gold standard for diagnosis. All three cases in our series showed the classic biphasic pattern of fibroadenoma, with slit-like spaces lined by ductal and myoepithelial cells embedded within proliferative stroma, without atypia or malignancy. These findings are in agreement with previously reported cases of fibroadenoma in ectopic breast tissue [1,5,6,14]. Surgical excision is both diagnostic and curative, and recurrence is rare, as observed in our follow-up period [5,14].

Although axillary fibroadenoma is uncommon, awareness of this entity is important to avoid misdiagnosis and unnecessary extensive surgery. Clinicians should consider it in the differential diagnosis of axillary masses, particularly in young females, and correlate clinical, cytological, and histopathological findings to guide management [1–6].

CONCLUSION

Axillary Fibroadenomas are rare benign tumors arising from ectopic breast tissue. They typically present as slow-growing, firm, mobile masses in the axilla, and may mimic other axillary lesions. FNAC is useful for initial evaluation, but definitive diagnosis requires histopathological confirmation. Surgical excision is curative, with excellent outcomes and low recurrence rates. Recognition of this entity is important for appropriate diagnosis and management, avoiding unnecessary interventions, and providing reassurance to patients.

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