**Journal of Neonatal Surgery**
***ISSN(Online): 2226-0439***
***Vol. 14, Issue 22s (2025)***
*https://www.jneonatalsurg.com*

OPEN ACCESS

# Axillary Fibroadenoma: A Rare Ectopic Breast Tissue Anomaly

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Cite this paper as: Kondapalli Sri Sai Teja Sampath, Sudhir Ramchandra Jayakar, Siddharth Tiwari, Guneet singh, (2025) Axillary Fibroadenoma: A Rare Ectopic Breast Tissue Anomaly. *Journal of Neonatal Surgery*, 14 (22s), 1093-1095

**ABSTRACT**

Accessory breast tissue refers to the presence of breast tissue located outside the typical breast area, usually found along the embryonic milk lines that stretch from the armpit to the groin. We report a 46-year-old female presenting with a painless, progressively enlarging lump in the right axilla for one year. Initially measuring 1 × 1 cm, the swelling grew to approximately 3 × 3 cm. Clinical examination revealed a firm, well-defined, mobile mass, distinct from the right breast, with no skin or nipple changes. Ultrasonography suggested fibroadenoma (BIRADS 2). Histopathological analysis confirmed the diagnosis, revealing a benign encapsulated tumor with biphasic proliferation of bilayered glands and fibromyxoid stroma. This case highlights the rarity and clinical significance of fibroadenomas in axillary accessory breast tissue. Such lesions may pose challenges during diagnosis by mimicking lymphadenopathy or other axillary pathologies

**Keyword:** *Breast Neoplasms, Ectopic Tissue, Mammary Glands, Neoplasms, Accessory Breast*

## 1. INTRODUCTION

### Case

A 46-year-old female presented to the outpatient department with complaints of a lump in her right axilla for last one year. The lump, initially measuring approximately 1 × 1 cm, had progressively increased in size and was now approximately 3 × 3 cm. The swelling was insidious in onset and was not associated with pain or nipple discharge. The patient reported no history of trauma, oral contraceptive use, or systemic symptoms. She had breastfed her three children and maintained regular menstrual cycles.

On examination, she was vitally stable and evaluation of the left breast revealed no abnormalities. On the right side, a single, firm, well-circumscribed, mobile, and non-tender mass measuring approximately 3 × 3 cm was noted in the axillary region, distinctly separate from the main breast tissue. There were no signs of skin changes such as peau d'orange, nipple retraction, or vascular congestion. The nipple-areola complex was normal, and no axillary or supraclavicular lymph nodes were palpable. Systemic examination did not reveal any other significant findings.

Laboratory workup showed a hemoglobin concentration of 12.9 g/dL, a total white blood cell count of 8,400/mm³, and a platelet count of 292,000/mm³. Coagulation parameters were within normal limits, with a PT of 11.60 seconds and an INR of 0.97. Renal function, liver enzymes, and electrolyte levels were also found to be normal

Ultrasound imaging of the bilateral breasts and axilla showed a well-circumscribed, heterogeneously hyperechoic lesion in the right axilla, measuring 29 × 30 mm, with parallel orientation and internal vascularity on color Doppler. The findings were suggestive of a fibroadenoma (BIRADS 2 lesion). The mass was successfully excised and sent for histopathological

examination (Figure 1)

Histopathological examination of the lesion confirmed the diagnosis. The results revealed a benign, encapsulated tumor characterised by biphasic proliferation of glands and stroma. The glandular structures exhibited a bilayered architecture, with an inner lining of ductal epithelial cells encased by a continuous outer layer of myoepithelial cells, primarily organized in an intracanalicular arrangement. The stroma was fibromyxoid, with no evidence of granuloma, atypia, or malignancy (Figure 2).

Based on the findings above, the case was diagnosed as a fibroadenoma, a benign breast tumor presenting in an ectopic location in the axilla

## 2. DISCUSSION

Fibroadenoma is a benign, biphasic tumor involving epithelial and stromal proliferation, typically presenting as a painless, firm, slow-growing, mobile mass (1–3). While fibroadenomas are common in women under 30, the occurrence at axillary position has been documented in not more than 40-45 cases so far (4–6).

Two hypotheses explain the development of accessory breasts. The widely accepted hypothesis attributes it to the failure of milk line involution during embryogenesis (7–9). Mammary milk lines develop as ectodermal thickenings along the sides of embryo during the 6th week, extending from the axilla to the groin (10,11). Normally, most of these ridges involute, except for the pectoral segments that form breasts (11). Accessory breast tissue arises when extrapectoral mammary ridges fail to involute, explaining its occurrence along the milk line (6).

The second hypothesis suggests accessory breast tissue develops from modified apocrine sweat glands, accounting for atypical localizations like the face, neck, thigh, and shoulder (8). Accessory breasts may present with or without a nipple areola complex, being visible or undetectable (12,13). In our case, the presence of fibroadenoma in the axilla aligns with the first hypothesis, indirectly indicating accessory breast tissue, as the axilla lies along the primitive milk line.

The classification system of accessory breast given by Kajava in 1915, remains widely used today (14). Based on this system, our case belongs to class IV, characterized by glandular tissue without a nipple–areola complex. This is a rare instance of fibroadenoma originating from nonpalpable axillary accessory breast tissue along the milk line. Similar cases have been reported by Goyal et al. (15) and Singh et al (16).

Accessory breast tissue is hormonally responsive and can develop benign and malignant pathologies similar to normal breast tissue, including fibrocystic disease, intraductal papilloma, lactating adenoma, fibroadenoma, and carcinoma (6,8). Differential diagnoses for axillary masses include lymphadenopathy, lipoma, neuroma, axillary tail of Spence, and accessory breast lesions (8). Diagnostic and therapeutic protocols mirror those for normal breast masses, but the rarity of accessory breast tumors may delay diagnosis. High-resolution ultrasonography is a primary tool for visualizing accessory breast tissue, identifying well-circumscribed lesions like fibroadenomas (3). Fine needle aspiration cytology (FNAC) offers a minimally invasive and cost effective method to guide diagnosis by evaluating cytological features (17). Definitive diagnosis relies on histopathological examination of excised tissue, confirming the nature of the lesion and ruling out malignancy (18). In our case, FNAC identified fibroadenoma in accessory breast tissue, later confirmed by histopathology.

## 3. CONCLUSION

In the clinical assessment of patients presenting with axillary swelling, it is essential to consider accessory breast tissue disorders, such as fibroadenoma, as part of the differential diagnosis. Early inclusion of this possibility in the diagnostic workup ensures timely identification and appropriate management of the condition. This case emphasizes that accessory breast tissue, despite its atypical location, is subject to the same pathological processes as normal breast tissue, including benign neoplasms like fibroadenoma. Recognizing this susceptibility is crucial for avoiding delays in diagnosis and ensuring effective treatment, particularly given the rarity of accessory breast-related conditions and their potential to mimic other axillary pathologies

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