

A Case of Axillary Fibroadenoma That Grew Rapidly from Axillary Accessory Breast Tissue over 40 Days

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Summary: Axillary accessory breast (AAB) occurs in 2%–6% of women. Like normal breast tissue, AAB can undergo changes, including periodic enlargement that can result in a palpable axillary mass. Fibroadenoma is the most common benign subcutaneous tumor of the breast: it occurs in approximately 25% of women and accounts for 50% of all breast biopsies. However, fibroadenoma in AAB is rare (2.6%). Here, we describe the case of a patient who was diagnosed first with left AAB on the basis of clinical and magnetic imaging resonance findings, and then 40 days later with fibroadenoma in left AAB by histopathology of the resected mass. The tumor, which had been undetectable at the initial visit, had transformed into a clinically obvious, hard, protruding mass at surgery. Thus, fibroadenomas originating from AAB can grow quickly, and imaging-based diagnosis should be confirmed with histology. Treatment should involve complete excision of the fibroadenoma and surrounding AAB. (*Plast Reconstr Surg Glob Open* 2023; 11:e5420; doi: 10.1097/GOX.0000000000005420; Published online 17 November 2023.)

Axillary accessory breast (AAB) occurs in 2%–6% of women. Like normal breast tissue, AAB can undergo changes, including local cyclic pain and periodic enlargement that results in a palpable axillary mass.¹ The cyclic pain and aesthetic concerns can lead some patients to seek surgical treatment. Moreover, because AAB can contain glandular tissue that is responsive to hormones, it is potentially at risk of malignant and benign tumorigenesis.² Fibroadenoma from AAB is one such tumor, although it is rare, with a prevalence of 2.6% in surgically resected AABs.³ We report a case of axillary fibroadenoma in AAB that was not detected by clinical and imaging examinations but grew into a clinically obvious tumor in 40 days and was then diagnosed by histopathology.

CASE REPORT

The patient was a 36-year-old woman who presented with a growing mass in her left axilla that had been present for 1 year. She reported local pain and swelling that

worsened during her menstrual period. The left axilla had a normal appearance, without any protrusions. On palpation, the mass was located in the subcutaneous tissue and demonstrated tenderness, poor mobility, and indistinct borders. The patient had no clinical or family history of breast tumor, and palpation of the orthotopic breasts did not reveal any lesions. Magnetic resonance imaging (MRI) was performed 20 days after the initial visit and showed an oval soft-tissue mass in the subcutaneous tissue of the left axilla that was ~10 mm in diameter and had well-defined margins. On T1-weighted and water-weighted images, the signal was low and high, respectively. The T1-weighted in-phase and inverse-phase images showed no particular loss of signal inside the mass, and the mass did not contain fatty tissue (Fig. 1). Given the location, clinical findings, and images, the mass was suspected to be AAB.

Forty days after the initial visit, the patient underwent surgery under local anesthesia to remove the mass. At this point, the mass had changed markedly: it was now a well-defined, elastic, hard, and raised mass with clear borders that resided just under the skin (Fig. 2). The mass was removed in one piece and found to be 17 mm in diameter, elastic, hard, and white. It did not adhere to the dermis.

Histopathology revealed a linear and dendritic epithelial component in a slightly myxomatous stroma, together with atypical poorly differentiated and proliferating stromal cells. The margins bore lobular structures, and mammary gland tissue was found around the tumor (Fig. 3). Consequently, the tumor was diagnosed as a fibroadenoma originating from AAB.

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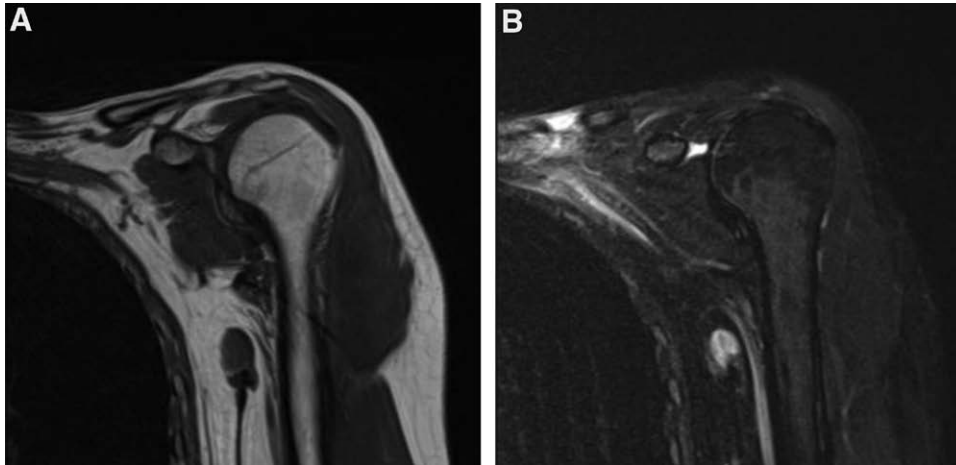


Fig. 1. MRI at the initial visit showing a well-defined oval soft-tissue mass in the subcutaneous tissue of the left axilla of a 36-year-old woman. A, T1. B, T2.



Fig. 2. A photograph taken just before surgery showing a subcutaneous tumor with a bulge in the left axilla.

The postoperative course was satisfactory, and the stitches were removed 8 days after surgery. In the succeeding 12 months, no signs of recurrence were observed.

DISCUSSION

AAB is a form of accessory breast tissue (ABT; also known as polymastia or ectopic breast tissue), which is a common congenital condition caused by incomplete regression of the milk line during embryogenesis. It presents as one or more masses along the embryological mammary streaks that run bilaterally from the axilla to the inguinal region. The mass ranges from a small focus of parenchyma to a complete breast bearing nipple and areola. It is present in both sexes (0.4%–6% in women and 1%–3% in men), but because its growth is hormone-dependent, it may only become evident in women on hormonal changes such as those accompanying menstruation, pregnancy, or lactation. It occurs most frequently in the thoracic or abdominal portions of the milk line (67% of cases) and axilla

(20%);⁴ the latter is termed AAB, which occurs in 2%–6% of women.³ Because ABT can contain glandular tissue that is responsive to hormones, it is potentially at risk of malignant and benign tumorigenesis.⁴ Indeed, malignant tumors originating from AAB have been reported.³

Fibroadenoma is the most common benign subcutaneous tumor of the orthotopic breast: it occurs in approximately 25% of women and accounts for 50% of all breast biopsies. It usually presents as a smooth, hard, elastic, mobile, not fluid-filled mass with clear borders and is composed of both glandular and stromal tissue.⁵

Although ABT and fibroadenoma in the normal breast are both relatively common conditions, fibroadenoma in AAB is rare (2.6%).⁵ Thus, when diagnosing subcutaneous tumors in the axillary region, it is necessary to consider the possibility of AAB alone, tumors originating from AAB, and other tumors. Computed tomography, MRI, and ultrasound are usually used for differential diagnosis but may not be sufficient on their own.⁶ Das et al showed that of 69 cases that were diagnosed as AAB by fine-needle aspiration cytology, only 16 (23%) had received the same diagnosis through clinical and imaging examinations. Thus, histology may be needed together with imaging to provide a definitive diagnosis of subcutaneous axillary tumors.⁷ Our case supports this: the patient was diagnosed with AAB on the basis of clinical and MRI imaging findings at the initial visit, but 40 days later, the lesion had changed to an elastic, hard, and obviously protruding tumor that was diagnosed by histology as AAB-derived axillary fibroadenoma. Previous reports have found that, generally, fibroadenoma volume may increase up to 16% per month in women younger than 50 years, and up to 13% per month in women 50 years old and older, or up to 20% in maximal dimension over 6 months for women of all ages.⁸

In comparison with this general growth rate of fibroadenoma, we believe this is a rare case of rapid growth of fibroadenoma in only 40 days. Thus, we suspect that the then-small fibroadenoma had been missed by the initial clinical and imaging examinations and had then grown sufficiently for visual detection.

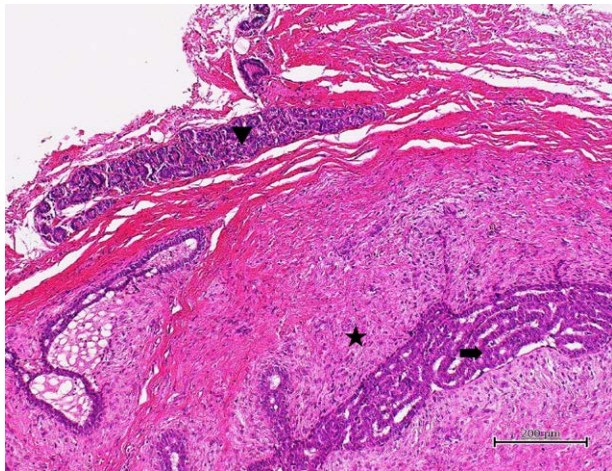


Fig. 3. Histopathological view of the resected AAB and fibroadenoma. The specimen was stained with H&E. The tumor was a linear and dendritic epithelial component (→) in a slightly myxomatous stroma, together with atypical poorly differentiated and proliferating stromal cells (★). The margins bore lobular structures, and mammary gland tissue (▼) was found around the tumor.

With regard to the treatment of fibroadenoma originating from AAB, complete surgical excision of the whole AAB and fibroadenoma is recommended because this will reduce fibroadenoma recurrence. Surgical excision is particularly indicated if the mass is symptomatic or causes psychological distress due to cosmetic concerns, or if there is doubt regarding the diagnosis.¹

In conclusion, fibroadenoma in AAB is a rare condition. Because imaging modalities can be inconclusive, histopathology is needed to assure the diagnosis.

Treatment involves complete surgical excision of the mass and AAB.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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