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### Accessory breast tissue (Mammae Aberrans) presenting as an axillary mass: A case report

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#### Abstract

**Background:** Mammae aberrans, also known as accessory or ectopic breast tissue, is a rare congenital condition that arises due to incomplete regression of the embryonic mammary ridge. Although it is often asymptomatic, in some cases it may enlarge, become tender, or resemble other axillary abnormalities, which can complicate diagnosis and management. Given its rarity and similarity to other axillary lesions, clinicians must exercise caution to ensure accurate diagnosis and appropriate management.

**Purpose:** To describe in detail the clinical features, diagnostic process, and surgical management of a 27-year-old female patient presenting with an axillary mass later identified as mammae aberrans.

**Method:** The report is based on a single clinical case involving a young female patient who presented with a progressively enlarging mass in her right axilla. The diagnostic process included physical examination, ultrasonography, and histopathological analysis. The patient underwent surgical excision of the mass under general anesthesia, followed by postoperative observation and follow-up to monitor recovery and possible recurrence.

**Results:** Clinically, the mass was firm, immobile, and measured approximately 12 × 8 × 6 cm. Ultrasonography indicated fibro-glandular tissue, and the histopathological examination confirmed the diagnosis of mammae aberrans. The surgical removal of the mass was successful, with the patient showing good postoperative recovery. No pain, complications, or recurrence were reported during follow-up visits.

**Conclusion:** Highlights the importance of considering accessory breast tissue in the differential diagnosis of axillary masses, especially in women of reproductive age. Early and accurate diagnosis, followed by appropriate surgical management, can lead to complete recovery, prevent misdiagnosis, and improve cosmetic and psychological outcomes for the patient.

**Keywords:** Accessory Breast Tissue; Axillary Mass; Ectopic Breast Tissue; Histopathology Mammae Aberrans.

#### INTRODUCTION

Mammae aberrans, also referred to as ectopic or accessory breast tissue, is a congenital anomaly resulting from incomplete regression of the mammary ridge during embryogenesis. Normally, this ridge extends bilaterally from the axilla to the inguinal region and should regress completely by the end of embryonic development. When regression is incomplete, residual breast tissue may persist and develop in abnormal locations outside the typical

pectoral area (Wainwright, 2010; Patel, Ibrahim, Zhang, Nguyen, Lin, & Lee, 2012). The axilla represents the most common site for this condition, though ectopic breast tissue has also been reported in the inframammary region, thoracic wall, abdomen, and even the vulvar area (Walizai, 2024; Lewis, Mutindori, Beohon, Gantt, Hammett, Henry, Kitchens, Burros, & Ibidapo-Obe, 2025).

Epidemiological data show that the prevalence of accessory breast tissue ranges from 0.6% to 6% among women and from 0.003% to 0.006% among men (Lim, Kim, Baek, Kim, Shin, Seon, & Heo, 2017). Morphologically, ectopic breast tissue can be classified into two major forms: supernumerary breast and aberrans breast. The supernumerary type contains a nipple, areola, and glandular tissue, while the aberrans type consists only of glandular elements without a nipple or areola (Tomey, Shivsharan, Kalbande, & Josh, 2024). Most cases are asymptomatic and are found incidentally; however, under hormonal influence, the tissue may enlarge, become painful, or even produce milk. These changes often occur during menstruation, pregnancy, or lactation, reflecting the tissue's hormonal sensitivity (Fantakis, Toutziari, Kolyma, Chatzikomnitsa, Alexandrou, & Papadopoulos, 2025; Walker & Capiro, 2025).

Although typically benign, ectopic breast tissue carries a small but significant risk of malignant transformation, accounting for approximately 0.3%–0.6% of all breast cancer cases (Preda, Kundhani, Buzas, Dema, Carabineanu, Miclaus, Ilin, Cretu, & Blidisel, 2024; Lee et al., 2025). The most common malignancies are ductal carcinoma in situ (DCIS) and invasive ductal carcinoma, particularly in axillary tissue (Salati & Al Sulaim, 2023; Fantakis et al., 2025). Diagnosis may be challenging due to its atypical location and resemblance to other axillary lesions such as lymphadenopathy, lipoma, or sebaceous cyst (DeFilippis & Arleo, 2014). Imaging modalities such as ultrasonography, mammography with axillary-tail views, and magnetic resonance imaging (MRI) are recommended to help distinguish it from other pathologies (Lim et al., 2017; Walizai, 2024).

The purpose of this case report is to present a rare clinical case of mammae aberrans diagnosed and treated at our medical center. By discussing its clinical presentation, diagnostic evaluation, and surgical management, this report aims to raise awareness of this uncommon anomaly and emphasize the importance of considering accessory breast tissue as a differential diagnosis in patients presenting with axillary masses (Lee, Kang, Kang, & Woo, 2025; Lewis et al., 2025).

## RESEARCH METHOD

This case report aims to provide a comprehensive clinical description and management approach of a rare case of *mammae aberrans* also known as *accessory breast tissue* located in the right axillary region. The objective of this study is to describe in detail the diagnostic process, surgical procedure, *histopathological* findings, and postoperative outcomes of the patient.

This case report was structured as a descriptive, single-case clinical analysis. The patient, a 27-year-old woman, presented with a gradually enlarging, firm mass in the right axilla. Data collection involved several steps, starting with a complete medical history and *physical examination* to evaluate the characteristics of the mass, including its size, texture, mobility, and tenderness. Imaging assessment was performed using *ultrasonography* (USG), which helped differentiate the lesion from other common axillary abnormalities such as lipoma, lymphadenopathy, or sebaceous cysts. The sonographic features showed a well-defined, hypoechoic structure with fibro-glandular components, suggestive of *accessory breast tissue* (Yeffer & Shibiru, 2022).

Surgical management was performed under general anesthesia through a transverse incision in the axillary fold. The mass was carefully dissected to ensure complete removal while preserving surrounding nerves and blood vessels. The excised tissue was sent for *histopathological examination*, which confirmed the presence of normal mammary glandular and ductal elements consistent with *mammae aberrans* (Lee et al., 2025). Perioperative care included administration of prophylactic antibiotics and analgesics, with wound dressing changes performed every two days. The patient's postoperative recovery was uneventful, with no signs of infection or recurrence during a three-month follow-up period.

In addition to clinical management, a *literature review* was conducted to compare this case with previously reported findings on accessory breast tissue. Relevant case reports and reviews published between 2022 and 2025 were analyzed to understand the variations in clinical presentation, imaging characteristics, and surgical outcomes.

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Similarities with previously documented cases strengthened the diagnostic accuracy and supported the chosen surgical approach (Agarwal, Kaur, Singh, Bansal, & Rani, 2025). All ethical principles were observed throughout the study, and informed consent was obtained from the patient for both treatment and publication of the case details and clinical images.

## RESEARCH RESULTS

### Case Presentation

A 27-year-old woman presented to the surgical outpatient clinic of Bhakti Rahayu Hospital, Denpasar, Bali, with a primary complaint of a lump in her right axilla. The patient stated that the mass had first appeared approximately five years earlier. Initially, it was about the size of a quail egg and

caused no discomfort; however, it had gradually increased in size over time. She reported that the lump became tense and mildly painful prior to menstruation but denied any family or personal history of similar conditions.

On general examination, the patient was alert and fully oriented, appearing in mild discomfort. Her vital signs were within normal limits: pulse rate 85 beats/min, blood pressure 128/90 mmHg, respiratory rate 22 breaths/min, and body temperature 36.5 °C. Local examination of the right axilla revealed a firm, immobile, well-defined mass measuring approximately 12 × 8 × 6 cm. The overlying skin appeared normal, smooth, and without signs of inflammation or edema. The consistency was firm and elastic, and the surface smooth, suggesting a benign lesion that warranted further evaluation.



Figure 1. Local examination of the right axilla revealed a mass measuring 12 × 8 × 6 cm.

Figure 1 showed the patient subsequently underwent surgical excision of the mass under general anesthesia in a supine position. After thorough aseptic preparation of the right axilla and adjacent chest wall, a horizontal elliptical incision was made over the mass. Subcutaneous flaps were carefully raised both proximally and distally to allow complete exposure. The lesion, measuring 12 × 8 × 6 cm, was identified with its base attached to connective tissue beneath the pectoralis major muscle. Complete excision was achieved, followed by meticulous hemostasis using electrocautery. The wound was irrigated with sterile normal saline (*NaCl solution*), and layered closure was performed. The procedure was completed without complications, and the patient's postoperative recovery was uneventful.



Figure 2. Ultrasonographic findings showing a lesion consistent with *mammæ aberrans* (accessory breast tissue) in the right axillary tail

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Figure 2 showed Ultrasonography (*USG*) of the right axilla demonstrated a fibroglandular structure with poorly defined margins, measuring approximately 4.11 × 2.0 cm. The sonographic impression was suggestive of *mammæ aberrans* (accessory breast tissue) in the right axillary tail.

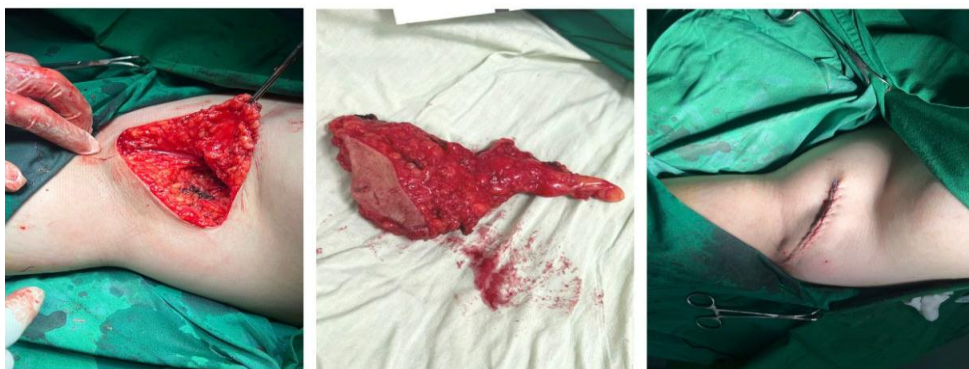


**Figure 3. Surgical Excision of the Right Axillary Mass**

Figure 3 showed following the surgical removal of the mass located in the patient's right axilla, the specimen was sent for histopathological evaluation. Macroscopically, the excised tissue appeared skin-covered, measuring approximately 8 × 6 × 4 cm. It exhibited a whitish-brown coloration and a firm consistency. Four representative sections were obtained and embedded into separate paraffin blocks for microscopic examination.

Under the microscope, the tissue surface was lined with stratified squamous epithelium, displaying nuclei within normal limits. The subepithelial stroma consisted of fibrocollagenous connective tissue containing mature adipose cells and mildly hyperplastic sweat glands, all within normal histological parameters. In one focal area, clusters of mammary gland acini and ducts were identified, lined by cuboidal epithelial cells with normal nuclear features. Additionally, three lymph nodes were present, showing reactive hyperplasia while maintaining normal nodal architecture. The subcapsular regions exhibited lymphoid follicles with reactive lymphoid cells and areas of vascular dilatation.

Based on these findings, the histopathological impression was consistent with ectopic (accessory) breast tissue in the right axilla, confirming a diagnosis of *mammæ aberrans*. This ruled out differential diagnoses such as lymphadenopathy or other soft tissue tumors. The postoperative course was uneventful. The patient was reviewed one week after surgery, demonstrating satisfactory wound

healing without signs of infection or residual pain. Postoperative counseling was provided, highlighting the importance of proper wound care, attending follow-up consultations for any new symptoms, and maintaining routine health evaluations.

## DISCUSSION

Ectopic breast tissue is a general term often used interchangeably with *accessory breast tissue* or *mammæ aberrans* in medical literature. This condition refers to the presence of additional breast tissue developing along the embryonic milk line, which extends from the axilla to the inguinal region. Among these sites, the axilla is reported as the most frequent location (DeFilippis & Arleo, 2014).

Histopathological findings confirmed the diagnosis of *mammæ aberrans*, indicating that the right axillary lump represented ectopic breast tissue rather than lymphadenopathy or another soft tissue lesion. This condition typically arises due to incomplete regression of the embryonic *mammary ridge*, a developmental pathway from which accessory breast tissue can persist into adulthood. Although accessory breast tissue most frequently occurs in the axillary region, its presence can also be found along other parts of the embryonic milk line or even in unusual sites such as the dorsal scapular area (Castaño, 1969). In rare cases, this ectopic tissue may undergo similar pathological changes as normal breast tissue, including benign or malignant transformation, underscoring the importance of accurate diagnosis and long-term follow-up (Salati & Al Sulaim, 2023).

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The prevalence of accessory breast tissue varies among populations, ranging from approximately 2%–6% in women and 1%–3% in men (Evans & Guyton, 1995). The distribution of accessory breast tissue appears influenced by ethnic and genetic factors. Studies have shown that the condition is relatively common among Japanese women, with a prevalence as high as 5%, whereas in Caucasians it may be as low as 0.6% (Marshall, Moynihan, Frost, & Evans, 1994; Alghamdi & Abdelhadi, 2005). Overall, it is estimated that around 6% of the general population may have some form of accessory breast tissue (Salati & Al Sulaim, 2023).

Embryologically, this anomaly develops between the fifth and sixth weeks of gestation, when two ectodermal thickenings known as the mammary ridges or milk lines appear (DeFilippis & Arleo, 2014). Normally, these ridges regress by the ninth week of development, except in the pectoral area, where the normal breast eventually forms. Incomplete regression may result in residual mammary tissue that persists along the milk line and later differentiates into breast tissue (Mazine, Bouassria, & Elboudhaddouti, 2020). These remnants may enlarge under hormonal stimulation, particularly during puberty, menstruation, pregnancy, or lactation. The clinical presentation varies widely from fully developed breast tissue with nipples and areolae to small glandular clusters without external features (Burdick, Thomas, Welsh, Powell, & Elgart, 2003). In the present case, the patient presented with a soft mass in the right axilla, without nipple or areolar structure, consistent with *mammæ aberrans*.

Most patients with accessory breast tissue are asymptomatic and remain unaware of the anomaly until incidentally detected. However, since this tissue is hormonally responsive, its size and consistency may change during hormonal fluctuations such as menstruation, pregnancy, or lactation (Goyal, Puri, Gupta, Julka, & Rath, 2008). In the present case, the patient reported a right axillary lump that had been present for five years, which became tense and painful prior to menstruation. In some cases, patients may also experience cosmetic concerns or restricted arm movement due to the location and size of the mass (Thasanabanchong & Vongsaisuwon, 2020).

Ultrasonography plays a crucial role in evaluating palpable masses in the axillary region, particularly in patients under 30 years old or when the lesion is

located outside the normal breast contour (DeFilippis & Arleo, 2014). On ultrasound, accessory breast tissue typically appears similar to normal breast parenchyma, composed of mixed fibroglandular and adipose tissue. In this case, ultrasonographic findings suggested *mammæ aberrans* in the right axillary tail, which was later confirmed by histopathological examination.

Management of accessory breast tissue depends largely on the severity of symptoms and cosmetic concerns. Observation is usually sufficient for asymptomatic cases, while surgical excision is indicated when patients experience pain, swelling, or functional or aesthetic discomfort (Alghamdi & Abdelhadi, 2005; Goyal et al., 2008). In this report, the patient underwent complete surgical excision because of persistent discomfort and cyclical pain. Histopathological evaluation of the excised specimen revealed normal mammary glandular structures without signs of malignancy. The postoperative course was uneventful, and the patient showed good recovery. Complete excision is also recommended to prevent potential malignant transformation in the future (Evans & Guyton, 1995; Marshall et al., 1994).

Although most cases are benign, several studies have reported the occurrence of carcinoma arising within accessory breast tissue. For instance, Lee et al. (2025) described a case of *ductal carcinoma in situ* developing in axillary accessory breast tissue in a 44-year-old woman, while Fantakis et al. (2025) reported ectopic breast cancer mimicking an epidermal inclusion cyst. These cases highlight how accessory breast tissue may resemble benign soft tissue tumors or cystic lesions, which can complicate diagnosis. In contrast, the current case involved a long-standing, hormonally responsive, but benign mass, emphasizing the need for careful differentiation between benign and malignant conditions.

This case contributes to the growing body of evidence emphasizing clinical awareness of axillary swellings that may represent ectopic breast tissue. Recognizing this condition is essential to avoid misdiagnosis as lymphadenopathy or soft tissue tumors. Early identification and appropriate management are crucial for optimal outcomes. Adhering to standardized reporting frameworks such as the CARE Guidelines also ensures that such case reports contribute meaningfully to medical literature and clinical education (Gagnier, Kienle, Altman, Moher, Sox, & Riley, 2013).

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## CONCLUSION

This case underscores the importance of maintaining clinical awareness regarding accessory breast tissue as a potential cause of axillary masses. Because mammae aberrans can closely resemble both benign and malignant lesions, it should always be considered in the differential diagnosis, particularly among women of reproductive age. Early recognition supported by appropriate imaging and histopathological examination allows for timely and accurate diagnosis. Surgical excision not only provides definitive treatment but also contributes to improved cosmetic satisfaction and psychological well-being. Ultimately, this case reinforces that careful evaluation and prompt management are essential to prevent misdiagnosis and to achieve favorable long-term outcomes for patients with accessory breast tissue.

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