

Spontaneously Draining Axillary Tumors in a Young Woman

John D. Hetzel, MD; Margaret S. Newsome, MD; Kathryn A. Potter, MD



A 19-year-old G1P1A0 woman presented to the dermatology clinic for evaluation of bilateral axillary swelling, pain, and spontaneous drainage of approximately 2 weeks' duration. The patient, who was 2 weeks postpartum, reported that the symptoms were associated with lactation when breastfeeding. She denied any personal or family history of hidradenitis suppurativa or other formally diagnosed dermatologic condition. Physical examination revealed a soft, mildly tender, well-circumscribed, nonfluctuant mobile mass in each axilla. Both lesions had a single central sinus tract with thin lactescent discharge that spontaneously drained and was expressible. A single thin hyperpigmented papule was noted on the anterior aspect of each mass.

WHAT'S YOUR DIAGNOSIS?

- a. ectopic (accessory) breast tissue
- b. epidermoid cyst
- c. hidradenitis suppurativa
- d. subcutaneous lipoma
- e. suppurative lymphadenitis

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Dr. Hetzel is from the Center for Clinical and Cosmetic Research, Aventura, Florida. Drs. Newsome and Potter are from the Department of Dermatology, Medical College of Georgia, Augusta.

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Correspondence: Margaret S. Newsome, MD, Department of Dermatology, 1004 Chafee Ave, FH-100, Augusta, GA 30904 (manewsome@augusta.edu).

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THE DIAGNOSIS:

Ectopic (Accessory) Breast Tissue

Ectopic (accessory) breast tissue (EBT) is a phenomenon caused by failed regression of one or more components of the embryonic mammary ridges—paired ectodermal thickenings that eventually develop into definitive breast tissue including the nipples, areolae, and parenchyma. Ectopic breast tissue is more common in women than men and is believed to be sporadic, although an autosomal-dominant inheritance mechanism with incomplete penetrance has been proposed for some cases.¹ The reported incidence of EBT varies greatly among racial and ethnic groups but is most common in individuals of Asian descent. The incidence across all types of EBT is estimated at 0.25% to 6% in the general population.²

Observed clinical variations of EBT range from simple polythelia (additional nipple[s] without associated parenchyma) to complete polymastia (organized and differentiated accessory breasts). Some types of EBT are rarer than others: One report of gynecologic cancer screenings in 1660 patients found polymastia and polythelia incidences of 0.12% and 5.48%, respectively.³ Of the symptomatic variations, isolated parenchymal EBT without a nipple or areolar complex is the most common and may manifest clinically as unilateral or bilateral tender, mildly erythematous nodules or masses often located in the axillae. Ectopic breast tissue generally is observed along the milk line, a developmental regional designation corresponding to the embryologic mammary ridge and extending linearly from the anterior axilla to the inguinal fold on both sides of the body; however, there have been rare reports of EBT manifesting in areas outside the milk line, such as the face, neck, back, vulva, and extremities.^{2,3}

Given that the underlying elements of EBT usually are hormone responsive (as with normal breast tissue), the initial symptom onset and subsequent manifestation frequently coincide with pubertal milestones, pregnancy, or lactation. Furthermore, some patients with EBT may experience symptom fluctuations in concordance with monthly menstrual phases. Many cases of EBT are self-limited and resolve within weeks to months after the end of a pregnancy or lactation, but some cases may persist. Continued observation and follow-up are advisable in all patients, as EBT symptoms often recur and the tissue is susceptible to the same disease processes that affect normal breasts, the most concerning of which is malignancy.⁴ Although the true incidence is limited by available data, primary ectopic breast malignancy has been estimated to account for 0.3% to 3.8% of diagnosed breast malignancies.² Cases of malignancy arising from EBT often are of higher grade and poorer prognosis, a finding that may be attributable to diagnostic delays caused by oversight or misdiagnosis of EBT rather than inherent differences

in the biologic profile of the tumors.^{2,4} Patients with a documented history of EBT may benefit from having their routine breast cancer screenings expanded to include areas with EBT foci.

Potential misdiagnoses for EBT include subcutaneous lipoma, axillary lymphadenopathy, abscess, hidradenitis suppurativa, or malignancy. Features that are suggestive of EBT include symptom association with hormone fluctuations (eg, menstrual phases), absence of fever, and lactescent rather than purulent drainage. Among reported EBT cases, spontaneous lactation rarely is described and, if present, often is associated with a history of prior trauma (eg, core needle biopsy or local abscess formation).⁵ This trauma creates an aberrant connection known as a milk fistula between the underlying parenchyma and the skin surface. Interestingly, our patient denied any history of axillary trauma, but she was noted to be lactating from an apparent milk fistula rather than an organized secretory duct system.

Though a patient history and clinical examination may be sufficient to diagnose EBT cases that are more physically apparent and well correlated with hormone fluctuations, many cases require additional diagnostic studies for confirmation. Of the tools available, ultrasonography generally is considered first-line due to its noninvasive nature, low cost, minimal risk, and high diagnostic value.² Ultrasonography quickly differentiates between abscesses and cystlike processes, which may appear as discrete areas of decreased echogenicity, and breast tissue, which manifests with fibroglandular tissue and lobules of fat.^{2,6} Additionally, ultrasonography may demonstrate the secretion of milk through ducts or fistulae, if present. Should examination with ultrasonography prove inconclusive, follow-up studies using conventional radiographic mammography or magnetic resonance imaging may be warranted. Biopsy of EBT foci generally is not indicated unless first-line noninvasive studies fail to yield a conclusive diagnosis; however, biopsy also may be warranted if initial imaging is suggestive of malignancy arising from EBT.²

Management of EBT generally is conservative, and symptoms often resolve without intervention.⁴ Symptomatic relief may be achieved through techniques such as application of warm/cold compresses, avoidance of mechanical stimulation, and use of over-the-counter pain medicine. In cases that are persistent, frequently recurrent, or associated with severe symptoms or that cause considerable cosmetic impact, management with surgical excision and/or liposuction may be warranted.⁷ In our patient, the symptoms were not bothersome enough to warrant surgical intervention, so she was managed conservatively and did not return for follow-up.

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