

## Galactocele of Accessory Breast: USG and Elastographic Imaging: A case report

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### Abstract

Ectopic breast tissue can be found in various locations in body. We present a case report of a galactocele of accessory breast in axilla with sonographic and elastographic imaging findings.

**Keywords:** Ectopic breast tissue, Benign breast mass, Sonography, Elastography.

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### Introduction

Galactocele is the most common benign breast lesion in lactating women and can present in the third trimester, after delivery, or even after cessation of breast feeding. Galactoceles typically caused by obstructed duct leading to distension of proximal lobular segments. Patients most often present with a palpable mass. The imaging appearance of galactocele is variable, depending on the amount of fat, protein and water content in lesion<sup>(1)</sup>.

### Case History

A thirty-eight year lady presented with swelling in left axilla. There was no history of fever or weight loss. Occasional history of discharge was there. She was referred for USG of left axilla. On examination hyperechoic breast parenchyma could be identified in axilla suggesting ectopic breast tissue. A well-defined hypoechoic lesion of size 2.2 cm x 1.2 cm was seen in axillary breast parenchyma containing internal echoes. On strain elastography typical BGR (Blue, green and red) appearance was seen. No stiff tissue could be identified in the lesion. USG guided aspiration showed yellow thick mixed material which was sent for histo-cytology. The cyto-morphology was suggestive of old organizing axillary galactocele (Fig. 1).

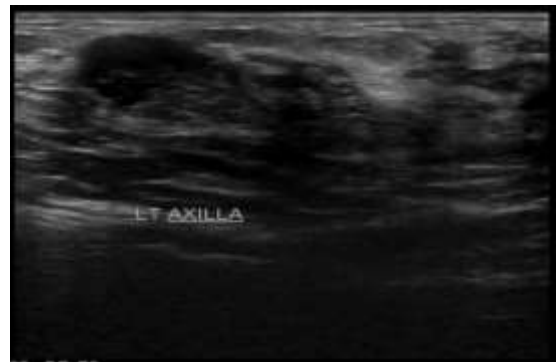


Fig. 1

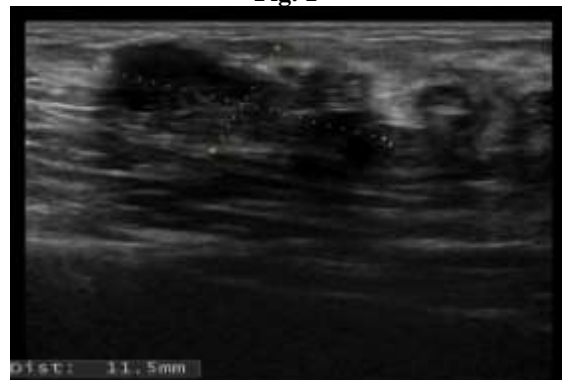


Fig. 2

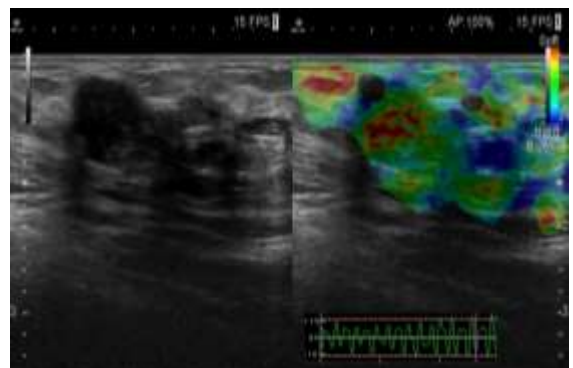


Fig. 3

**Fig. 1, 2, 3: Ultrasonography of left axilla  
Ultrasonography of left axilla shows hyperechoic  
ectopic breast tissue containing a hypoechoic lesion**

measuring 2.2x1.2cms in size with internal echoes.

**On strain elastography the lesion shows typical cystic BGR Appearance (Blue, Green, and Red) of the lesion**

## Discussion

During the early weeks of fetal development, the mammary milk lines, which are two ectodermal thickenings along the sides of the embryo, extend from the axillary region up to the groin. During normal development most of the embryologic mammary ridges resolve, except for 2 segments in the pectoral region, which later on become breasts. Failure of any portion of the mammary ridge to involute can be the cause of ectopic breast tissue with (polythelia) or without (polymastia) a nipple/areolar complex. Polythelia, in particular, has known association with urinary malformation, and renal carcinomas, which can be possibly explained by the parallel embryologic development of mammary structures along with the genitourinary system<sup>(2)</sup>. Most commonly ectopic breast tissue occurs along the milk line in the axilla and vulva<sup>(3)</sup>. Ectopic breast tissue includes both supernumerary and aberrant breast tissue. The incidence of supernumerary tissue reported as high as 6% depending upon the ethnic group studied<sup>(4)</sup>. Accessory breast tissue is most commonly located in the axilla, but rare locations outside the milk line, are buttock, the face, posterior neck, chest, middle back, flank, hip, shoulder, vulva, upper extremities, and posterior and lateral thigh are also reported in literature<sup>(4)</sup>. Many breast pathologies like abscesses, fibroadenomas, fibrocystic disease, atypical ductal hyperplasia, phyllodes tumor, mastitis, and all types of breast cancer have been found in ectopic breast also<sup>(5)</sup>. On ultrasound, galactocele appear with thin, well circumscribed margins; the internal appearance may be homogeneous with low level echoes or heterogeneous depending on the internal contents. It may have multicystic or a complex echotexture. The margins vary from well-defined to ill-defined, depending upon the amount of surrounding tissue inflammation. Histopathology reveals cuboidal and flat epithelial-lined cysts often accompanied by inflammatory and/or necrotic debris<sup>(1)</sup>. Complex cysts with impure content can be difficult to differentiate from solid lesions using conventional ultrasound only. Their size also remains consistent with the B-mode ultrasound, unlike malignant lesions, which appear larger with elastography than on conventional ultrasound<sup>(6)</sup>. A grading scale used to categorize lesions based on the color signature generated by evaluation of target lesions has been proposed by Itoh et al<sup>(7)</sup>. According to this, Category 0 lesions have a unique red-green-blue signature that is seen with simple cystic lesions. Category 1 lesions show a uniform pattern of high strain, marked by an evenly distributed green color throughout the lesion. Category 2 lesions are

heterogeneous but mostly green color signature, indicating a predominantly high strain pattern of the lesion. Category 3 lesions indicate a pattern of high peripheral strain with central low strain pattern, and they produce a small central blue area that is surrounded by a green peripheral color. Category 4 lesions demonstrate a low strain pattern and a uniformly blue color signature confined to the visible margin of the lesion, whereas category 5 lesions show a similar blue signature that extends beyond the lesion into the adjacent tissues<sup>(7)</sup>.

## Conclusion

As accessory areola or nipple is often missing and awareness of physicians and patients about these unsuspecting masses is lacking, clinical diagnosis of accessory breast pathology is frequently delayed. There are a wide variety of imaging findings that can be seen while scanning the axilla. Ranging from skin lesions to abnormal lymphadenopathy to posterior chest wall masses, Accessory breast tissue occurs in 2–6% of women and can be appreciated on mammography, ultrasound and MRI. When accessory tissue occurs, both benign and malignant breast lesions can be seen i.e. cysts, fibroadenomas, PASH, breast cancer. Galactocele is the most common benign breast lesion in lactating women. Hence while scanning axilla in case of complex cyst this possibility should be kept in mind. This helps surgeon in proper management of the case.

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