



## **Mammary Galactocele Discovered in Accessory Breast Tissue**

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**Abstract**

*In a rare case of a 33-year-old mother breastfeeding twins, there was an unusual appearance of an axillary bulge which turned out to be a galactocele. This case report discusses this unusual occurrence. Accidentally, the patient found a non-tender, mobile swelling on her right axilla. The ultrasonography revealed an identifiable benign lesion surrounded by areas of inflammation, variable echogenicity, and mild posterior acoustic shadowing. Fine needle aspiration cytology confirmed the diagnosis of a galactocele. Despite being a benign lesion, there aren't many published cases that highlight the need of FNAC and ultrasound in the identification of these lesions, which can occasionally even seem malignant. The study and peer review acknowledges the possibility of overdiagnosis while highlighting the significance of careful examination and linking.*

**KEYWORDS:** *Galactocele, Accessory Breast, Axilla, Benign Cyst Axilla, Axillary Cyst.*

**Introduction**

In humans, accessory breast tissue refers to extra breast tissue located outside of the typical breast region. It is a rather uncommon disorder.<sup>1</sup> These axillary breasts can emerge anywhere along the mammary ridge where complete regress fails during embryonic development. Throughout the course of evolution, the numerous nipple areolar complex along the mammary ridge—which is still highly common in other mammals—became rudimentary for humans. We shall discuss a rare example of galactocele-related supplementary breast tissue here. During pregnancy and nursing, benign breast lesions or cysts called galactoceles are frequently filled with milk. These benign lesions are not malignant. Rarely does a galactocele develop from the auxiliary breast tissue.<sup>2</sup>

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## Case Presentation

During a typical shower, a 33-year-old woman who was breastfeeding her 6-month-old twins sporadically felt a perceptible lump in her right axillary region. She did not have any additional breast-related problems, and the lump was not painful.

Upon physical examination, two tiny lumps in the central left axilla measuring roughly 1 x 0.5 cm and 0.5 x 0.5 cm were found. The skin covering these non-tenders, movable, oval to spherical lumps looked normal and showed no indications of inflammation or discolouration.

An ultrasound revealed a well-defined, ovoid thick-walled mixed echoic lesion with internal echoes measuring approximately 1.2 x 0.9 cm with minimal posterior acoustic amplification and surrounding inflammatory alterations in left axilla. The lesion shows lack of internal vascularity on colour Doppler. A cystic abscess was recommended as the most likely diagnosis based on the sonographic results and suggested histo-pathological correlation for further evaluation. Several foamy macrophages were visible in the fine needle aspiration smears that followed. Granular, proteinaceous material mixed with frothy lipid micelles and occasionally crystalloid substance was also visible in the background. Not a single lymphocyte. It was determined which cells were atypical or epithelial. This ultimately resulted in the diagnosis of galactocele-related supplementary breast tissue.

## Discussion

Galactoceles are benign retention cysts that most usually form in breastfeeding women and during pregnancy as a result of ductiferous tubule dilatation. This condition is frequently brought on by improperly drained stagnant milk or by other conditions including inflammation or breast damage. About 4% of women who appear with benign lesions have galactocele, which accounts for 4-5% of instances in the Breast Imaging Reporting and Data System (BI-RADS) category.<sup>3,4</sup> Although galactoceles have been extensively documented in the literature and are rather prevalent in normal breast tissue, there are very few documented occurrences of galactoceles originating from accessory breast tissue.<sup>1,2</sup>

The imaging on ultrasonography is dependent on the lesion's milk and fat content. These lesions can have posterior acoustic shadowing and range from anechoic to hypoechoic.<sup>5,6</sup> That might not always be the case, though, in general. Sometimes they can seem very substantial due to the high milk content. Furthermore, calcification in an older lesion might occur and be mistaken for cancer. In the same way as mammography.

However, because these lesions exhibit a lack of blood flow, colour doppler imaging may provide a diagnosis indication.

Some studies have indicated a 6% incidence of supernumerary breast tissue, with associated diseases ranging from mastitis and invasive carcinomas to fibroadenomas, fibrocystic disease, and abscesses.<sup>7,8,9</sup> Galactocele from accessory breast tissue, however, are infrequently recorded, mostly due to the fact that they frequently do not exhibit symptoms unless they are exacerbated by inflammation or infection. FNAC and ultrasound are essential for the diagnosis of these benign diseases. Based on their fat and protein content as well as the consistency of the fluid inside, these lesions can resemble cystic, multicystic, solid, fibroadenoma-like, or even suspicious masses when seen on ultrasonography.

Very few occurrences of axillary galactocele were reported in the literature. The majority of these lesions were found to be benign and showed an anechoic mass with posterior acoustic shadowing in the left axillary area. Nevertheless, in two of the cases, the lesion seemed more worrisome, which changed the case's outcome. In one of the examples that Raj et al. noted, the smears from the left axillary lesion in addition to the macrophages also showed signs of crystallisation. Table 1 contains the details.

S.No	STUDY	Age	Ultrasound findings	Site	Year
1	Farrokh et al <sup>6</sup>	32	Hypoechoic mass	Left axilla	2017
2	Whang et al <sup>4</sup>	36	Anechoic cystic mass	-	2007
3	Daga et al <sup>10</sup>	35	Mixed echogenicity	Left axilla	2018
4	Cotrell et al <sup>11</sup>	-	Anechoic mass with posterior acoustic enhancement	Left axilla	2016
5	Hangan Ansert S <sup>12</sup>	36	Anechoic cystic mass	Right axilla	2012
6	Raj et al <sup>5</sup>	25	No ultrasound	Left axilla	2021
7	Phatak et al <sup>13</sup>	38	Hypoechoic mass	Left axilla	2016
8	Shahana et al <sup>14</sup>	22	No ultrasound	Left axilla	2023
9	Our case	33	Mixed echogenicity with mild posterior acoustic shadow	Right axilla	2023

Table 1:

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## Conclusions

Considering that galactocele might affect nursing moms, treating any swelling along the milk duct is simple. But frequently, they resemble cancer. When used in conjunction with fine needle aspiration cytology, imaging can facilitate a prompt diagnosis and act as a therapeutic tool. Though common during pregnancy and lactation, we should remember that they can also occur in other situations, including prolactinomas or hormone therapy. Because of this, it's important to remember not to overdiagnose these cases.

## PICTURES

### ULTRASONOGRAPHY:



FIG: A well-defined, ovoid thick-walled mixed echoic lesion with internal echoes measuring approximately 1.2 x 0.9 cm with minimal posterior acoustic amplification and surrounding inflammatory alterations in left axilla. The lesion shows lack of internal vascularity on colour Doppler.

FNAC IMAGES:

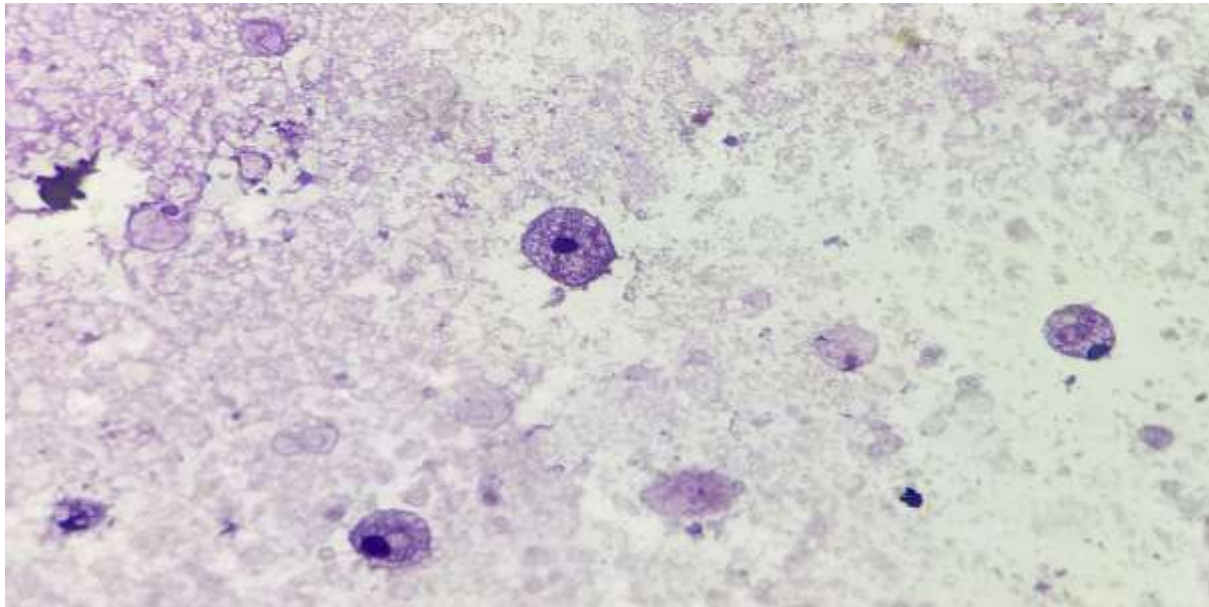


FIG: 40X Giemsa stain; Numerous foamy macrophages in a granular, proteinaceous material mixed with frothy lipid micelles.

Conflict Of Interests: No conflict of interest

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