



## Case Report

# Cytological diagnosis of Axillary crystallizing galactocele – A report of an unusual case

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## Abstract

Axillary Crystallizing galactocele is a rare entity that yields a viscous, chalky material on Fine Needle Aspiration Cytology (FNAC). FNAC is used both for diagnosis and treatment of this condition. We present here a case of a 28-year-old female with painless swelling in the right axilla with the clinical impression of Lymph node swelling secondary to Tuberculosis. There was neither any associated palpable breast lesion nor any associated fever or weight loss. There was a history of fibroadenoma of the left breast in the lower inner quadrant for which she was operated. On Aspiration of the lesion in the right axilla, we got thick, milky, and gritty material. On cytological examination, multiple smears showed a fair number of crystals of varying sizes and shapes in a dirty background of amorphous debris, along with very few ductal epithelial cells. There was no granuloma or atypical cell. Based on the previous clinical history and typical cytomorphological features, a diagnosis of axillary crystallizing galactocele was given. We report this case because of a high index of suspicion of tuberculosis, but cytological features were suggestive of crystallizing galactocele. Very few cases have been reported in the medical literature to the best of my knowledge.

**Keywords:** Breast, Old crystallizing galactocele, Aspiration cytology

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## 1. Introduction

Galactoceles are benign cysts that are filled with droplets of colostrum or milk and clusters of benign epithelial cells with droplet-filled cytoplasm that looks like foam cells.<sup>1</sup> It is one of the common benign cystic lesions of the breast that occur more commonly in pregnant and lactating females. Carcinoma of the breast during pregnancy is a very uncommon event that may cause difficulty in the diagnosis especially in aspiration cytology. The reason is that the cytologic pattern of the normal lactating breast may look like carcinoma because of the presence of large nucleoli in ductal epithelial cells.<sup>1</sup> Galactocele is a type of retention cyst which is milk-filled and occurs most commonly beneath the areola. It is also very common in young women who are either pregnant or breastfeeding. It occurs due to the abrupt cessation of lactation and plugging of the lactiferous duct. There may be several underlying associated causes that may vary, like improper breastfeeding technique, Oral contraceptive pills, breast surgery, transplacental passage of

prolactin, etc. It presents as a mass lesion on imaging, which can mimic lipoma or cancer radiologically. Clinical history is of paramount importance in this situation. FNA of these lesions mainly shows fat mixed with protein contents, sometimes inflammation, and a background of debris. A few secretory epithelial cells may also be seen in the smears. Galactoceles may recur after incomplete aspiration and may also occasionally become superinfected; in these cases, complete aspiration may be diagnostic as well as therapeutic.<sup>2</sup>

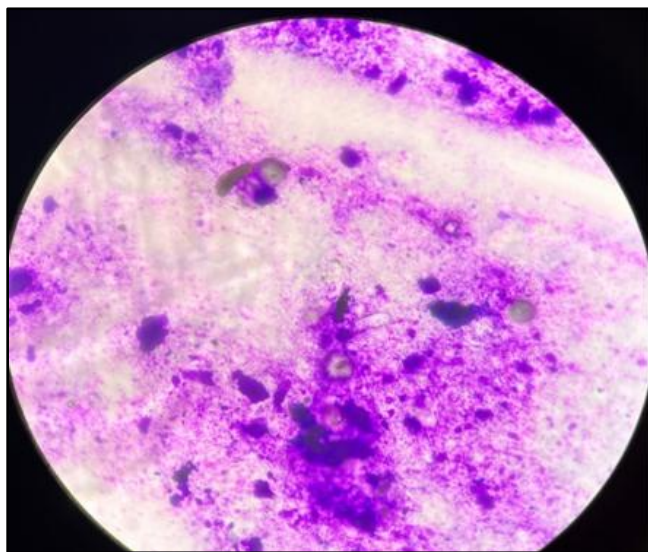
Raso DS et al first described the very rare entity of crystallizing galactocele in the upper middle area of the left breast, which was diagnosed on Fine Needle aspiration cytology.<sup>3</sup>

Our study reports a very unusual presentation of swelling in the axillary region, which on cytology showed many crystal-like structures, and the final diagnosis of axillary crystallizing galactocele was made confidently on the basis of its characteristic cytomorphology alone.

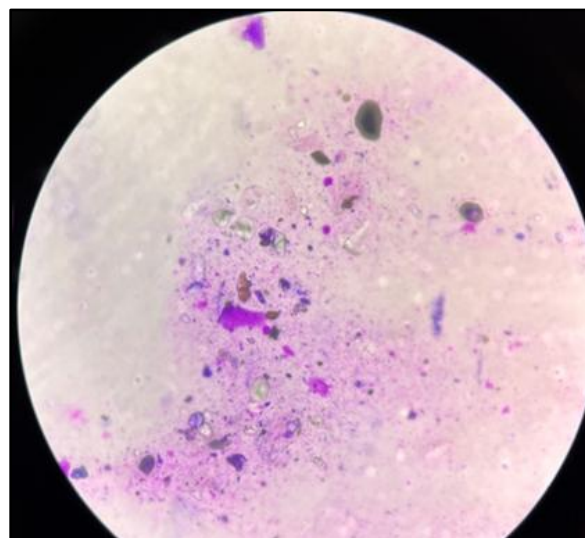
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## 2. Case Report

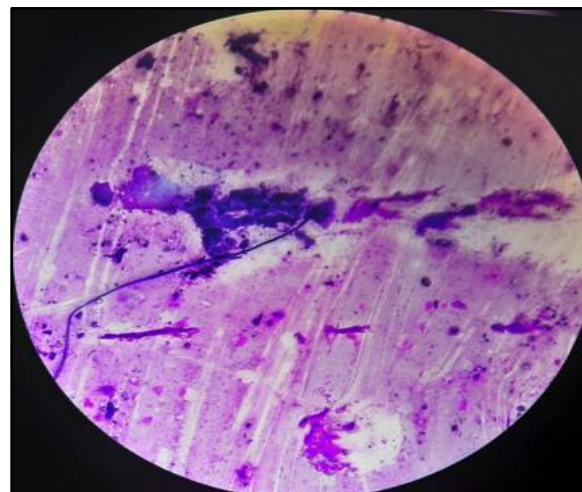
A 28 year old lady presented with painless swelling in the right axilla with the clinical impression of? Lymph node swelling secondary to TB. There was neither any associated palpable breast lesion, nor any associated fever, weight loss. Past history of fibroadenoma of the left breast in the lower inner quadrant, for which she had been operated. After one month of this operation, 3x2cm cm-sized cystic swelling in the left breast was noted which was associated with pain. Diagnosis of galactocele/abscess of the left breast was made. USG guided aspiration of fluid was done and swelling subsided on its own. After a few months, she developed swelling in both breasts for which she was treated by a local doctor. After this she developed swelling in the right axilla with no palpable breast mass and came to our department for cytological evaluation with a provisional diagnosis of tubercular lymphadenitis. On aspiration, 5ml of yellowish granular material was aspirated. The smears were stained with MGG and ZN stain (to rule out tuberculosis). The smears examined show an abundant amount of granular and amorphous proteinaceous material with a variety of crystals and lipid micelles in intermixed areas. Many crystals were of varying sizes, shapes, and appearances, like colorless, eosinophilic, and basophilic. Mostly, crystals were refractile and irregular in shape. Rhomboid, needle-shaped, cysteine-like crystals were also seen. Occasional ductal epithelial cells, along with very few macrophages, were seen. Foci of calcification are seen along with lipid micelles. No granuloma/ atypical cell was seen. ZN smear studies were also showing AFB negative result. Thus the final diagnosis of Axillary crystallizing galactocele was rendered to the index case on the basis of characteristic morphology.



**Figure 1:** Eosinophilic, basophilic, colourless variably shaped crystals



**Figure 2:** Colorless Rhomboid, needle shaped refractile crystals, Occasional macrophage and benign ductal epithelial cell



**Figure 3:** Abundant granular amorphous proteinaceous material along with foci of calcification seen

## 3. Discussion

Galactocele is a common benign lesion of breast during lactation that can some time also mimic carcinoma.<sup>4</sup> It is formed because of collection of milk products within obstructed ductal lumina, giving rise to the formation of a cyst. Galactoceles may resolve on their own in most of the cases, as the lactation is under hormonal control. Some clinicians have proposed that diagnostic aspiration from a cyst may prove to be therapeutic at the same time. Sometimes it presents as crystallizing form and can mimic as suspicious solid masses on sonography.<sup>5</sup>

Few earlier cases of crystallizing galactocele have been already reported. In this study, we reported the findings of crystallizing galactocele in the axilla with clinical suspicion of tubercular lymphadenitis. Past history gave useful clues in form of involvement of contralateral breast by fibroadenoma

followed galactocele. For all these she had gone through multiple visit to the hospital and received surgical as well as medical treatment for the span of 1 and ½ year causing significant morbidity to the patient.

Crystallizing galactocele in the axilla is very rare finding. To the best of my knowledge I was able to find only one case previously reported by the use of FNA.<sup>6</sup> Galactocele usually resolve spontaneously after cessation of breastfeeding but axillary galactocele are uncomfortable and may get infected forming abscess, or may become calcified mimicking malignancy. In that case, treatment is only complete excision.<sup>7</sup>

#### 4. Conclusion

The index case presented as swelling in axilla with high index of suspicion of tuberculosis which on morphology turned out to be a galactocele in the axilla, which is very rare .To the best of our knowledge, very few cases have been reported so far. FNAC is sufficient to make the diagnosis of as a crystallizing galactocele if we evaluate smears and clinical history effectively. In the context of our index case past history evaluation contributed significantly in the making of the final diagnosis.

#### 5. Source of Funding

None.

#### 6. Conflict of Interest

None.

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