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Case Report

Crystallizing Galactocele –A Cytological Dilemma: Case Report

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Abstract: Galactoceles are benign cystic lesions that contain collostrum or milk, generally occur during pregnancy and postpartum lactation. Fine needle aspiration (FNA) yields milky fluid that is often both diagnostic and therapeutic. Cytologically, aspirates generally contain occasional foam cells and benign epithelium that displays lactational change with an abundant background of lipid micelles and proteinaceous material. This is the case which showed features of crystallizing galactocele.
Keywords: Galactocele; Crystallizing; FNAC

INTRODUCTION

Galactoceles are the most common benign breast lesion in pregnant and lactating women that are true cuboidal epithelium lined cysts containing milk like fluid either with or without curd like material [1]. A galactocele is a retention cystic tumor located in mammary gland, caused by protein plug that blocks the outlet [2].

CASE REPORT

A 30 years old lactating female presented with the chief complaint of a non-tender, mobile nodular lump, measuring 3X3 cms in the upper outer quadrant of right breast since 1 month. On physical examination of the breast, a discrete, mobile, nodule measured 3 X 3 cm was palpable in the upper outer quadrant of the right breast. A provisional diagnosis of fibroadenoma was made on clinical examination and sent for FNAC procedure. On FNAC aspirated chalky white powdery material. The smears were stained with Haematoxylin and Eosin stain (Fig.1) as well as Giemsa staining (Fig. 2).

The smears studied showed numerous crystals of varying sizes with angulated borders. Background showed acellular, granular amorphous proteinacious material. No ductal cells and macrophages seen. In view of the clinical history of the lactation and the cytology, a final impression of a crystallizing galactocele was made. Smears also showed birefringence under polarizing microscope and found positive for Von Kossa stain for calcium.

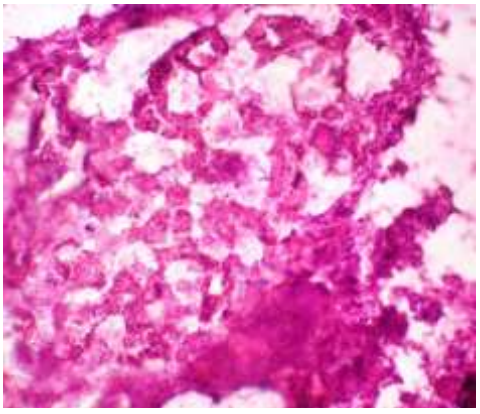

Fig. 1: Granular, amorphous, proteinaceous material in the background admixed with distinct, variable sized crystals (H&E, X 40)

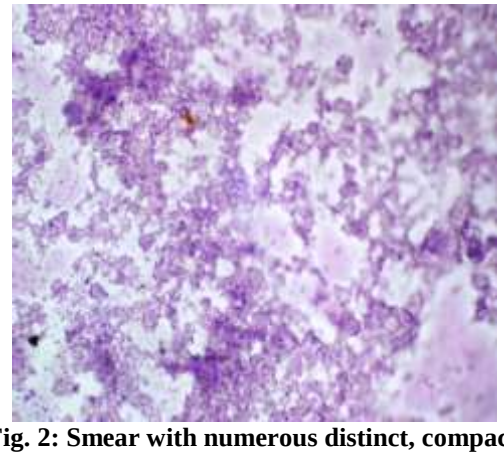

Fig. 2: Smear with numerous distinct, compact semitransparent to dark blue/purple crystals (Giemsa stain, X 40)

DISCUSSION

Palpable, nodular lesions in the breast of pregnant or lactating women require prompt attention. They may represent a galactocele, a benign adenoma, or a carcinoma [3]. The main predisposing factor for galactocele development is thought to be mammary duct obstruction in the lactating breast, most likely due to inflammation or in rare cases a tumor [4]. Presentation is painless lump weeks to months duration, single or multiple, unilateral /or bilateral [5]. Location is mainly subareolar region [5] and can be associated with OCPs, breast surgery, transplacental passage of prolactin [6, 7].

FNAC is usually a diagnostic procedure for most of the palpable lumps [8]. Sometimes attempts to drain cyst is unsuccessful as protein plug may remain intact but milk production continues [9]. Galactocele cause no infection as the milk within is sterile and outlet is not there for which to become contaminated [2].

Radiologically it's a potentially confusing lesion to radiologist and difficult to distinguish from breast abscess and carcinoma. The features on ultrasound have overlapping appearances [10]. Differential diagnosis includes lactating adenoma and fibroadenoma clinically [5]. Some malignant lesions enlarge during pregnancy as a result of hormone changes and can be difficult to distinguish from a Galactocele [11].

Nevertheless, the diagnosis of a galactocele is often difficult to make on sonography alone, and a pathologic diagnosis is often warranted [6, 7, 12]. In the present case the crystals represented precipitation of inspissated lactational secretions. There are several possible mechanisms of precipitation [7].

CONCLUSION

To conclude, in a pregnant or a lactating female, a galactocele can yield either a milky, viscous aspirate or a powdery aspirate. Whenever we find an amorphous acellular material on FNAC crystallizing galactocele should be kept in mind as one of the differential diagnosis. This is an unusual presentation of a galactocele.

To the best of our knowledge, this is the third case reported after Raso DS *et al*. [7] in 1997 and Nikumbh DB *et al*. [12] reported second case in 2013.

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