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FNAC DIAGNOSIS OF CRYSTALLIZING GALACTOCELE : A RARE CASE

Pathology

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ABSTRACT

Galactoceles are benign lesions containing milk that present during pregnancy and lactation.[1] The physiological changes of the breast during pregnancy and lactation make the clinical radiological, and pathological evaluation of a breast mass challenging.[2] Fine needle aspiration cytology (FNAC) is a simple and minimally invasive technique, which helps in diagnosis as well as treatment of galactocele.[3] Although the cytological features of galactocele on aspirates are straight forward, very rarely we can encounter crystal formation in long standing cases of galactocele. Thick viscous milky white fluid is aspirated on FNAC in a crystallizing galactocele and cytological smears show numerous variable sized crystals in a proteinaceous background. Till date less than 10 cases have been reported in literature as per the best of our knowledge.We here present a rare case of crystallizing galactocele in a 32-year-old lactating female.

KEYWORDS

galactocele,crystallizing,FNAC

Case Report

A 32-year-old female, presented with complaint of a slowly growing painless lump in the right breast noticed by her 6 month ago. The lady had delivered her second child and was lactating for 1 year and 3 months. On examination, a mobile, discrete, non tender, nodular lump, measuring 3 × 3 cm was palpable in the upper inner quadrant of the right breast. Nipple and areola were unremarkable. The clinical diagnosis was that of a fibroadenoma. FNAC was performed under aseptic precautions using a 22 gauge needle, which yielded a chalky thick milky white aspirate on two passes. The lump reduced in size after aspiration. Smears were stained with routine Giemsa stain. The smears showed numerous, distinct, compact, and semitransparent to dark blue/purple refractile crystals with defined borders of variable shapes and sizes [Figure 1,2]. The background showed granular, amorphous, and proteinaceous material, which was admixed with frothy appearing lipid micelles and variable sized crystals. The distinct epithelial fragments, bipolar nuclei, and fibrous stroma were not seenIn view of the clinical history of lactation and the cytological findings, a diagnosis of a crystallizing galactocele was made.Palpable nodular lesions of breast in a pregnant or lactating female can be benign, lactating adenoma, or a carcinoma.Though carcinoma occurs in about 3% cases, yet all the lesions require immediate workup.[1]

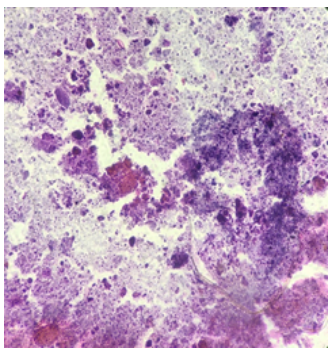

Figure 1:show low power view of amorphous proteinaceous

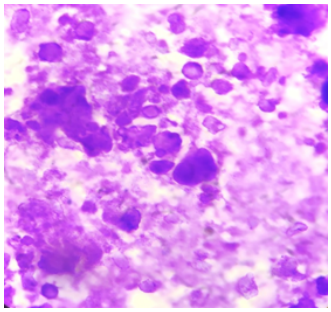

Figure 2 Numerous dark blue/purple crystals in an amorphous proteinaceous background background. The crystals are variable sized.

DISCUSSION

A galactocele is a benign lesion of the breast occurring commonly in postpartum period with long standing history of swelling. It is defined as an encysted collection of milk products that is lined by a flattened cuboidal epithelium. Predisposing factors include ductal obstruction, secretory type of breast epithelium, and prolactin stimulation as in pituitary adenoma. Rarely, it can be seen in postmenopausal woman and following augmentation mammoplasty.[4]

Sonography alone poses a diagnostic challenge as it can be confused with a breast abscess and carcinoma. Clinically,lactating adenoma and fibroadenoma come under differential diagnosis as was in our case.[5] Hence pathological correlation is necessary for a definitive diagnosis. FNAC is not only a simple and minimally invasive procedure but also serves as a diagnostic and therapeutic modality in of galactoceles. Smears shows necrotic cells, nuclear debris, scattered foamy macrophages, but ductal epithelial cells are absent.[5] A rare variation in the aspirate of galactocele is presence of crystals on smear. The crystal formation in this condition occurs because of precipitation of inspissated milk secretions. Long standing milky fluid acts as a nidus for crystal formation. The secretions contain acid and neutral mucins, lipids, lysozyme, albumin, IgA secretory piece, and whey protein. For the crystals to form there must be sufficient contact between the reactants. Supersaturation of these milk substances under acidic environment leads to formation of calcium lactate or tyrosine crystals.[6] The long standing galactocele in our case may have been a good soil for the formation of crystals. Till date only 8 cases of crystallizing galactocele[1,3-7] describing cytological features have been reported in literature.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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