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Quiz Case

An extremely rare case of axillary accessory breast swelling with uncommon association of methicillin-resistant *Staphylococcus aureus*

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Quick Response Code:

A 34-year-old female presented to the surgery department with persistent nodular left axillary swelling and pain for 15 days. A fine needle aspiration biopsy was performed from the left axilla and image of the smear is depicted below.

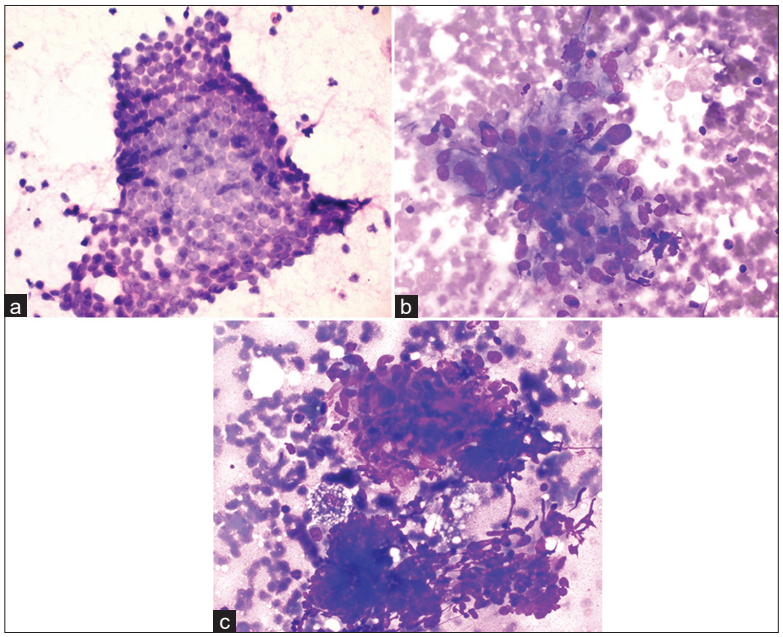

Figure 1: (a-c) Fine needle aspirate biopsy smear from left axillary swelling stained with papanicolaou and may-grunwald-giemsa stain.

QUESTION

Q1. What is the interpretation/diagnosis?

a. Breast carcinoma
b. Granulomatous mastitis (GM) in accessory axillary breast
c. Fibrocystic change
d. Phyllodes tumor.

ANSWER

b- GM in accessory axillary breast.

EXPLANATION

Cytological findings showed cellular aspirate with sheets of benign ductal epithelial cells, few non-necrotizing epithelioid cell granulomas, numerous foamy macrophages, neutrophils, and multinucleated giant cells showing emperipolesis [Figures 1a-c]. Ziehl-Neelsen stain and TrueNat for acid-fast bacilli were also performed which was negative, excluding Tuberculosis. Based on cytological findings, the diagnosis of GM in the accessory axillary breast was considered. Methicillin-resistant *Staphylococcus aureus* was later isolated in the bacterial culture performed on aspirate sample. Following the administration of antibiotics, the lesion significantly improved.

ADDITIONAL QUIZ QUESTIONS

Q2. Which of the following is true about GM?

a. Usually occurs in women of reproductive age, and most cases occur around 2 years after breastfeeding
b. Malignant disease of the breast
c. It is an untreatable condition
d. None.

Q3. Which of the following disease is reported in the accessory breast?

a. Phyllodes
b. Mastitis
c. Fibroadenoma
All of the above.

Q4. What are the other granulomatous diseases of the breast?

a. Tuberculous mastitis
b. Sarcoidosis
c. Both
d. Galactocele.

ANSWERS TO ADDITIONAL QUIZ QUESTIONS

Answers: Q2-a, Q3-d, Q4-c.

BRIEF REVIEW OF THE TOPIC

GM is an unusual chronic inflammatory condition of the breast that is characterized by breast masses, erythema, abscesses, indurations, and tenderness. It usually occurs in pregnant women within 5 years of giving birth.[1] GM was described as a distinct entity in 1972 by Kessler and Wolloch.[2] In general, accessory breast tissue extends from the axilla to the pubic area along the embryonic mammary ridge.[3] The disease processes that affect accessory breast tissue are similar to those that affect normal breast tissue. The most frequent diseases reported in the accessory breasts are cancers followed by mastitis, fibroadenoma, phyllodes tumors, and fibrocystic change.[4] The majority of cases of GM occur within the first 2 years after breastfeeding, while GM during pregnancy is rare.[5] Idiopathic GM manifests histologically as non-caseating granulomas and is chronic, rare, and inflammatory. Typically, it presents as an inflamed, tender mass on the breast.[6] In our case, the patient had given birth to her first child 3 years ago, and there was no history of breast trauma/use of oral contraceptives/any family history of breast cancer. Clinical examination revealed a tender swelling of approximately 1.5 cm in size with redness in the left axilla. Ultrasonography findings were suggestive of left axillary lymphadenitis. The patient was exposed to a number of risk factors, including delivery and breastfeeding, which both contribute to GM and accessory breast tissue formation.[6,7] The diagnosis of GM remains challenging for clinicians. Cytological examination of fine-needle aspiration biopsy can ensure the diagnosis of this disease, despite the fact that it often mimics breast cancer.[8] Patients with GM are often subject to prolonged disease courses with substantial negative impacts on quality of life during diagnosis and treatment. Therefore, diagnosing and treating them remain a challenge for clinicians as well as patients. To the best of our knowledge, till date, only two other cases of GM in accessory breast tissue have been reported in the literature. At present, there is no consensus regarding the etiology and management of GM.[9] In our case, the patient was treated with oral antibiotics and the patient's condition improved.

SUMMARY

The diagnosis of GM on the accessory axillary breast should be considered in women with pain and swelling along the milk line and having recent history of delivery and breastfeeding. As far as GM is concerned, there is no standard management approach. Therefore, treatment strategies should be tailored to the needs of each patient.

COMPETING INTEREST STATEMENT BY ALL AUTHORS

The authors declare that they have no competing interests.

AUTHORSHIP STATEMENT BY ALL AUTHORS

Each author has participated sufficiently in the work and takes public responsibility for appropriate portions of the content of this article. All authors read and approved the final manuscript. Each author acknowledges that this final version was read and approved.

ETHICS STATEMENT BY ALL AUTHORS

As this is case without identifiers, our institution does not require approval from the Institutional Review Board (IRB).

LIST OF ABBREVIATIONS (In alphabetic order)

FNAC – Fine needle aspiration cytology
GM – Granulomatous Mastitis
MGG – May-Grunwald-Giemsa
USG – Ultrasonography

EDITORIAL/PEER-REVIEW STATEMENT

To ensure the integrity and highest quality of CytoJournal publications, the review process of this manuscript was conducted under a **double-blind model** (the authors are blinded for reviewers and vice versa) through automatic online system.

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