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Case report**Epidermal cyst of breast: A rare case entity****Sonia Chhabra, Renuka Verma^{*}, Mahesh Tayal, Priya Jain, Megha Ralli and Rajeev Sen***Department of Pathology, Pt. B.D. Sharma PGIMS Rohtak, Haryana, India.****Correspondence Info:**

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E-mail : renuka138pathology@gmail.com**Abstract**

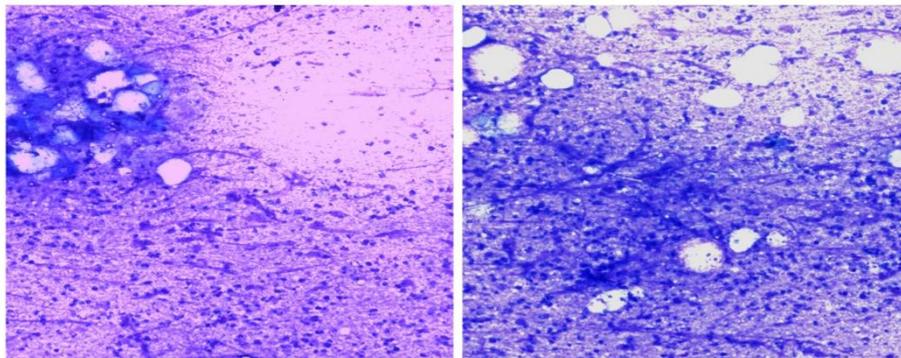
Epidermal cyst arising from breast is an uncommon benign condition. We report two cases of epidermal cyst of the breast on fine needle aspiration one in male and other in female patient in their forties. Epidermal cyst of breast presents as an enlarging lump in the breast and mimics a benign breast lesion, most commonly fibroadenoma. Excision is usually recommended for a definite histopathological diagnosis and for the prevention of potential risks of malignant transformation.

Keywords: breast lump, epidermal cyst, fibroadenoma**1.Introduction**

Epidermal cyst of breast is an uncommon benign condition and is usually located in the skin layer. It refers to cysts resulting from the proliferation and implantation of epidermal elements within a circumscribed space in the dermis. Such cysts can occur anywhere in the body although they are more common on the face, trunk, neck, extremities and scalp. The occurrence of epidermal cyst in the skin of the breast is rare, till date, less than 40 cases have been reported to the best of English literature search. It presents as a small lump and needs to be differentiated from other non-neoplastic and neoplastic breast lesions. Published cytological literature in breast is scanty and there are only five reports.[1]-[3] Lesions of such nature are frequently thought to be breast lumps. We report two cases of enlarging epidermal cyst of the breast.

2. Case Reports**2.1 Case 1**

A 42 year old male presented with swelling in left breast subareolar region with clinical diagnosis of gynaecomastia. On examination, it was a soft-firm retroareolar mass, measuring 2x1 cm, immobile, tender and appeared to be fixed to skin. On ultrasound it was a cystic lesion with few septation in it. No colour flow signal was demonstrated within the lesion. Fine-needle aspiration of the lesion was performed and thick yellowish viscid material was aspirated during the aspiration, confirming the cystic nature of the lesion. Cytological examination revealed numerous clumps of mature squamous cells with inflammatory exudates. The findings were consistent with infected epidermal cyst (Figure:1).

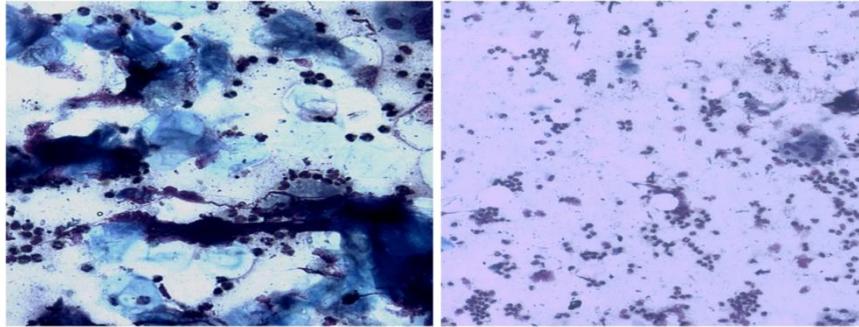
Figure 1: Mature squamous epithelial cells with dense inflammatory exudates (Giemsa 100x)

2.2 Case 2

A 48-year old female presented with swelling in right breast upper medial quadrant since one year. The swelling was 3x2 cm, firm in consistency, mobile, non-tender and had increased in size recently. It was not fixed to skin or underlying structures. Clinical diagnosis of fibroadenoma was made. Ultrasound examination revealed hypoechoic lesion with no flow on colour doppler. Fine-needle

aspiration performed from the swelling yielded white cheesy aspirate. Cytological examination revealed numerous mature squamous epithelial cells in a background of acute inflammatory cells mainly neutrophils. Few benign ductal epithelial cells were also observed. No granuloma or atypical cells seen. Thus a diagnosis of an infected epidermal cyst was made (Figure:2).

Figure 2: Numerous mature squamous epithelial cells in a background of acute inflammatory cells and few benign ductal epithelial cells (Giemsa 200x)



3. Discussion

Breast Epidermal cyst may arise due to various mechanisms that may result in damage to epidermis which further gets implanted deep within the breast tissue (congenital cyst secondary to obstructed hair follicles, post-trauma, reduction mammoplasty, needle biopsy) or developed following squamous metaplasia of normal columnar cells within a dilated duct in cases of fibrocystic disease, or within a fibroadenoma or phyllodes tumours.[4] [5] In the present study, the mechanism appears to be obstruction of hair follicle, as there was no history of previous trauma, surgery or lump in the breast.

Epidermal cyst in breast need to be differentiated from fibroadenoma, breast abscess, breast carcinoma, gynaecomastia as in case-1.[6] Radiologically on mammography, it appears as non-calcified, well-circumscribed homogeneous lesion with increased density, and on ultrasonography (USG) it appears as solid, circumscribed and complex or heterogeneous mass. Crystal and Shaco-Levy described the specific sonographic features of breast EIC as an onion-ring appearance, with alternating concentric hyperechoic and hypoechoic rings corresponding to the pathologic features of lamellated keratin.[7]

On FNAC epidermal cyst yields a dirty whitish aspirate, which on smears shows numerous anucleated squames or nucleated squamous cells better seen on Giemsa stain. Due to the intraparenchymal nature of the lesion, sometimes adjacent normal breast epithelial cells and adipocytes

can also be included in the smear. Inflammatory cells mainly neutrophils, lymphocytes, macrophages also seen in background due to secondary infection.

Epidermal cyst can cause severe complications; potential ones include spontaneous rupture leading to inflammation and abscesses and patient present with a discharging sinus in the peri-areolar region. Although these cysts are benign, they may rarely have malignant transformation into squamous cell carcinoma.[8][9]

Asymptomatic stable lesions do not require treatment; biopsy is unnecessary, and follow-up imaging suffices if typical sonographic and clinical findings are found. However, in symptomatic cases presenting with an enlarging palpable breast lump, even with typical sonographic appearances, excision is usually recommended for definitive histopathological diagnosis so as to exclude a malignant lesion with benign imaging features, and for the prevention of potential risk of malignant transformation.

4. Conclusion

Epidermal cyst is a rare entity in breast. It present as breast mass with clinical diagnosis of fibroadenoma, breast carcinoma or gynaecomastia. FNAC plays a significant role in the diagnosis of epidermal cyst based on the presence of a typical pultaceous aspirate and cytomorphological features. Asymptomatic lesions can be followed up by imaging; symptomatic ones should be readily excised and need histological correlation to rule out any potential complications that can arise from these cysts.

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