

CASE REPORT

EPIDERMAL INCLUSION CYST OF THE BREAST COEXISTING WITH FIBROADENOMA: A RARE BENIGN LESION WITH REVIEW OF LITERATURE

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ABSTRACT

Background: Epidermal inclusion cysts are uncommon in the breast, and is a rare, benign condition, it can be seen at any location. Epidermal cysts are commonly found on the scalp, face, trunk, neck, and extremities. They are rarely seen in the breast parenchyma. These benign lesions are important in that they may undergo neoplastic differentiation, although very rarely in fewer cases. Epidermoid cysts usually develop as a result of the implantation of superficial epidermal tissue into the dermis or subcutaneous tissue after trauma or surgical procedures, Breast is an uncommon site for EIC, and only few cases have been reported., we report a case of EIC arising from a peri areolar region with coexisting fibroadenoma in a 31-year-old female who presented to the department of surgery with painful swelling.

Keywords: Fibroadenoma, Epidermal Inclusion Cyst.

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INTRODUCTION

An epidermal inclusion cyst (EIC) of the breast is rare in literature¹) Several theories were suggested for the development of epidermal inclusion cysts, including congenital occurrence secondary to the obstruction of hair follicles or pores, implantation of epidermal fragments deep into the breast tissue caused by damage to the epidermis after a trauma, and the development of squamous metaplasia in the columnar cells of the dilated ducts in fibrocystic disease, fibroadenomas, and phyllode tumors.^[1,2] Historically, EICs have been referred to using a number of different terms, including follicular infundibular cysts, epidermal cysts and epidermoid cysts.

EICs may occur anywhere in the body, although they are most prevalent on the face, trunk, neck, extremities and scalp.^[3] EICs rarely develop –develops in the breast, it presents as a lump that is primarily localized in the peri areolar region.^[4] The importance of this benign lesion lies in the differentiation between other non-neoplastic and neoplastic breast lesions.^[5] Furthermore, an association between EIC and squamous cell carcinoma has been reported.^[6] The incidence of malignant potential is highly variable (0.045 19.0%) and the true incidence remains uncertain.^[7] The occurrence of EIC in the breast (EICB) is very rare; Based on a study by Paliotta et al., a total of 82 cases of epidermal cysts in the breast were reported. In that study, the mean tumour diameter was 3 cm.^[8]

CASE REPORT

A 31-year-old woman was referred to the Department of Surgery, due to a painful and slow growing palpable mass in the left breast measuring approximately in size 2.9X2.5cm.

Physical examination identified a round, firm lesion that was non adherent to the overlying skin in the central quadrant of the left breast. Ultrasonography revealed a solid, heterogeneously hypoechoic, well circumscribed mass measuring 2.9x2.5 cm. There was no skin change, no nipple discharge (ND) or retraction. There was no history of trauma, previous surgery, breast infection, hormone intake or a family history of breast disease. Contralateral breast and bilateral axillae were normal. no lymphadenopathy, Radiological diagnosis was suggestive of benign breast lesion. FNAC was performed using 22-gauge disposable needle; aspirates were pultaceous, smears were processed as air-dried Giemsa-stained preparations. Cytomorphological features were suggestive of EIC due to the presence of many nucleated and anucleated squames (AS) along with biphasic population of ductal epithelial cells arranged in antler horn clusters few myoepithelial cells and stromal component.

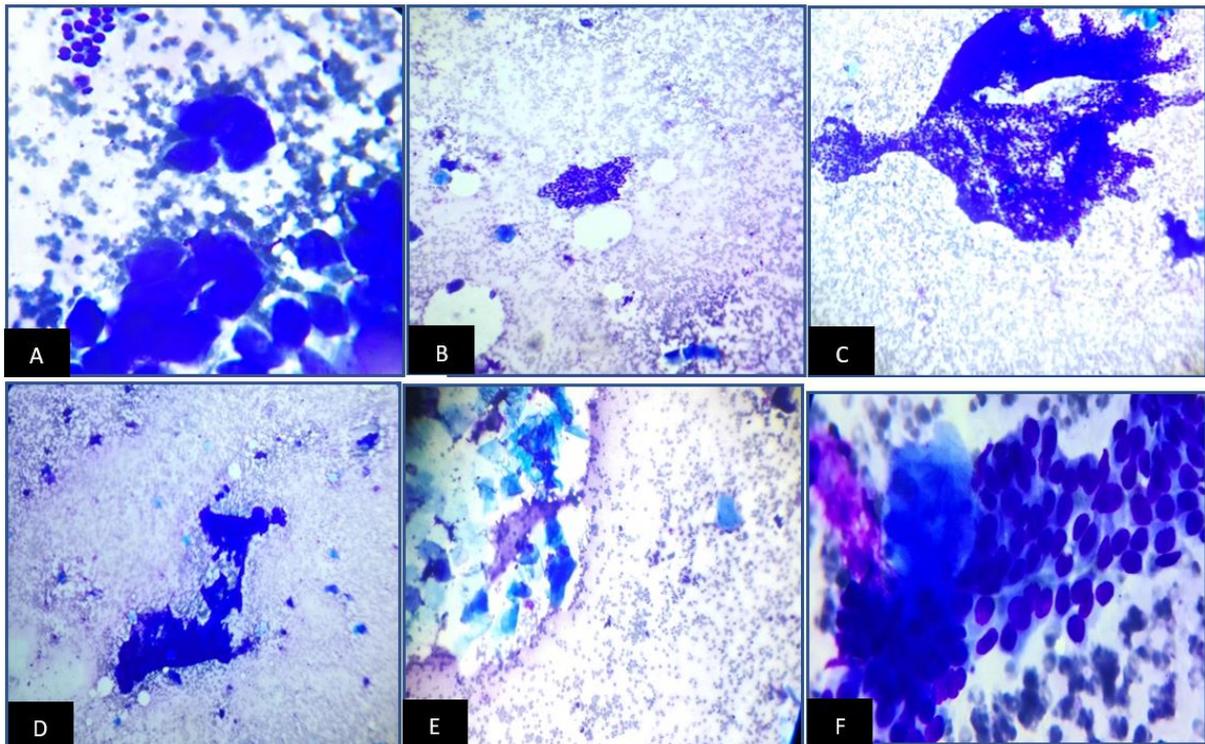


Figure 1: (a) FNA smear shows anucleated squames and epithelial cells Giemsa X400 (b) FNA smear shows epithelial clusters Giemsa X100 (c,d) FNA smear shows epithelial clusters and few bare nuclei Giemsa X100 (e) FNA smear shows nucleated and anucleated squames Giemsa X100 (f) FNA smear shows stromal fragment Giemsa X400

DISCUSSION

Breast EIC 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/pores, post-trauma, reduction mammoplasty, needle biopsy).^[9-11] Other mechanisms include Squamous metaplasia of normal columnar cells within an ectatic duct in an area of FCD, FA or phyllodes tumours (PT).^[12]

From the literature, it can be determined that EIC of the breast typically affects individuals in the fifth decade of life. This kind of tumor is naturally slow growing. The spontaneous rupture of large cysts was noted in few cases, releasing non absorbable keratin, which acts as an irritant and subsequently leads to secondary foreign body reactions, granulomatous reactions or abscess formation.

EIC of the breast typically appears as a smooth, round nodule, the nature of which cannot be distinguished.

Histological and cytological diagnosis to exclude an Fibroadenoma, Phyllodes Tumour and low-grade malignant breast lesions such as mucinous carcinoma is required. Denison et al.^[13] in their report on cysts extending into the dermis described specific USG features of EICB. An onion ring pattern with alternating concentric hyperechoic and hypoechoic rings has been described corresponding to the multiple layers of lamellated keratin in EICB.^[13,14] EIC yields a dirty whitish aspirate, which on smears shows numerous Anucleatedsquames better seen on Giemsa stain. In our case both anucleatedsquames coexisting with ductal epithelial antler horn clusters, few myoepithelial cell are seen. Since EICB is rare, diagnosis of Phyllodestumor and rarely Mucinous Ca, depending upon the age of the patient, is also kept as D/D in such lesions.

Lilleng et al,^[15] found only one case of EIC out of 779 histologically documented benign breast lesions from surgical biopsies over a period of 10 years. Das et al,^[16] reported three cases of EIC/pilar cysts in FNA from 188 males with breast lesions. Only one of the three reports had histological correlation; it indicated a pilomatrixoma. Kapila and Verma,^[17] were able to detect only five cases of EIC out of 424 benign aspirates from 651 males over a period of 22 years. Histopathological correlation was not available in any of these cases. EICB can cause severe complications; potential ones include spontaneous rupture leading to inflammation and abscesses. Although these cysts are benign, they may rarely have malignant transformation into squamous cell carcinoma (SCC). Menville et al,^[18] found that 19% of the patients with EIC in their series showed malignant squamous cell lining on histopathology. However, Cameron and Hilsinger,^[19] reported that malignant transformation of the cyst wall epithelium occurs very rarely (0.045%). Willis,^[20] and Haselton,^[21] also reported a possible role of EIC in the origin of SCC of breast.

Overall, the incidence of EICB is less; reports are variable on its malignant change, thus actual percentage is uncertain. Malignant change occurs more in the EICBreast, as compared to EIC at other sites, and it may be due to SM of the mammary duct epithelium. Some authors have reported Paget's disease in the EIC arising from nipple/peri-nipple epidermis.^[22]

CONCLUSION

To conclude, EIC breast along with fibroadenoma is a rare entity and can remain underreported because of its insignificant clinical presentation. Radiologically, it appears as solid mass lesion with well-defined borders, and therefore possibility of other well-defined benign or malignant lesion is difficult to exclude in few cases. Thus, FNAC plays a significant role in the diagnosis of EICB based on the presence of a typical white pultaceous aspirate and cytomorphological features. Histological correlation also advised. Asymptomatic and large lesions can be followed up by imaging symptomatic ones should be readily excised and need to rule out any potential complications that can arise from these cysts in case of particularly when it is associated with fibroadenoma.

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