

## Case Report

## Epidermoid Cyst of Breast - A Common Benign Lesion, in an Uncommon Site

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### ABSTRACT

Epidermoid cysts are the benign lesions which occur most commonly in the scalp, back and neck. Occurrence of epidermoid cyst in the breast is very rare and only few cases have been reported in the literature.

**Case Report:** The 30 years old female presented with lump in the right breast. FNAC was suggestive of benign cystic lesion. Excision biopsy was done and histology showed a keratinous/epidermal cyst with panniculitis.

**Conclusion:** An epidermoid cyst presenting in the lump in the breast can mimic benign breast lesion. It should be considered for the differential diagnosis of other benign conditions.

**Key words:** Epidermoid cyst, breast, uncommon site.

### INTRODUCTION

Epidermoid cyst arising from the breast is a rare and benign condition, which can be misdiagnosed clinically. It is also called as keratinous cyst or epidermal inclusion cyst. It mimics benign and malignant lesions of breast. Less than 50 cases have been reported in the English literature. [1,2] It has a potential risk to undergo infection and malignancy. We report here a case of epidermoid cyst of breast with panniculitis.

### CASE HISTORY

A 30yrs old woman presented to with a lump in the right breast since 2 months. Swelling was initially small in size which later progressed to present size of 5x4cms. History of pain in lump was present. No h/o fever, discharge from nipple.

Local examination revealed a single, painful, oval swelling in right lower and outer quadrant measuring 5x4cms. Skin over swelling was normal. Nipple and areola complex was also normal.

Clinically differential diagnosis of Fibroadenoma/Cystic breast lump was given.

Sonography of breast was done, which was suggestive of large thick walled complex cystic lesion in right lower and outer quadrant.

FNAC was done which showed numerous anucleate squames with small amount of keratin in the background which was suggestive of keratinous/epidermal cyst (Figure 1).

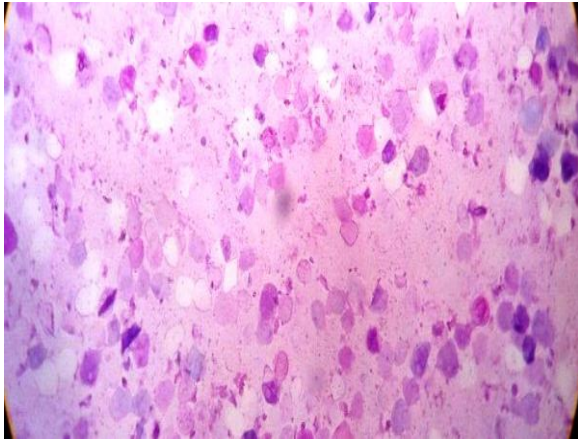


Figure 1: Microphotograph of FNAC showing anucleate squames (Giemsa X100)



Figure 2: Gross picture showing grey white to yellow mass

Excision biopsy was done and sent for histopathological examination.

Grossly it was single grey white soft tissue mass measuring 5 x 4.2 x 2.5cm (Figure 2). External surface was irregular grey white and on cut section- pultaceous grey yellow material seen.

Histopathology examination showed normal breast parenchyma with a cyst wall lined by squamous epithelium with lamellated keratin with giant cell reaction. Cystic cavity showed keratin material noted. Surrounding adipose tissue shows inflammation composed of histiocytes and few giant cells. No evidence of Malignancy noted (Figure 3&4)

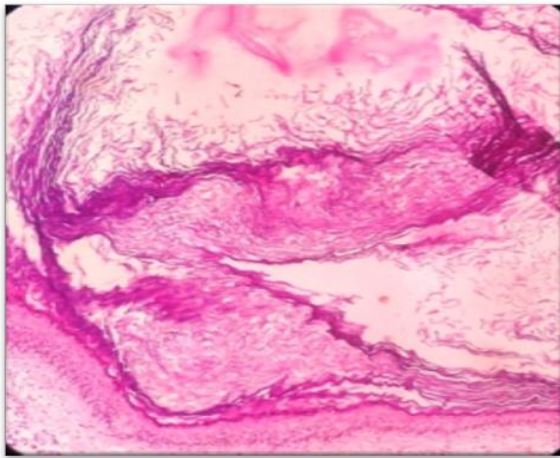


Figure 3: Microphotograph showing squamous epithelium with lamellated keratin (H & E X400)

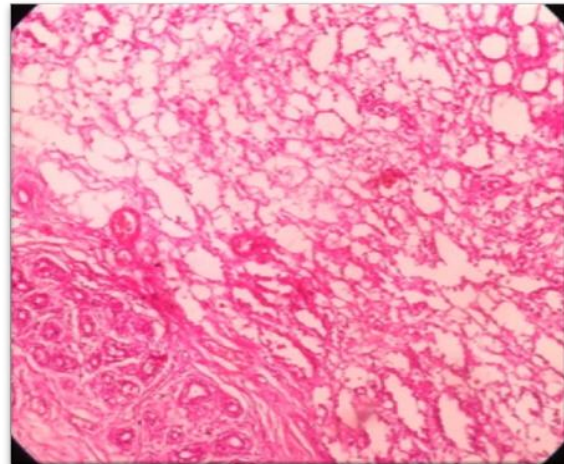


Figure 4: Microphotograph showing normal Breast lobules with panniculitis (H & E X400)

## DISCUSSION

An epidermoid cyst is a common benign cutaneous or subcutaneous cyst. It accounts to 80% of the cystic swellings <sup>(3)</sup> which occurs in scalp, neck, face and trunk neck. <sup>(4)</sup> It is also reported in the female external genitalia, extremities and sole. The first histologically confirmed case was reported in 1900 at the Johns Hopkins hospital. <sup>(5)</sup>

It is a rare benign condition which occurs in the breast parenchyma. It is also

called as epidermal inclusion cyst. There are many theories for its development. First, due to hair follicle obstruction. Second, they may result from trauma like reduction mammoplasty or needle biopsy of breast which leads to infiltration of the torn fragments of the epidermis deep into the breast parenchyma. Third, can develop due to squamous metaplasia of the columnar cells within an ectatic duct in the fibrocystic disease or in the fibroadenoma. Fourth, congenital inclusions along the lines of

closure. <sup>(6)</sup> In the present case the mechanism appears to be due to hair follicle obstruction as there is no history of trauma.

Epidermoid cyst of the breast typically affects females in the fifth decade of life. <sup>(7)</sup> In our case patient was of young age.

Epidermoid cysts present as smooth dome-shaped swellings a few millimetres to a few centimetres across. A punctum is usually present. It is firm, non tender and non compressible swelling. It becomes painful when ruptures or gets infected.

On Mammography, an epidermal inclusion cyst appears as a well circumscribed, homogenous density and hence is distinguishable from breast cancer. <sup>(6)</sup> In our case this was not done.

On Sonography, the epidermoid cyst in the breast shows a specific onion-ring appearance with alternating concentric hyperechoic and hypoechoic rings, which correspond to the pathologic features of lamellated keratin. These features distinguish it from other benign lesions such as fibroadenoma or Phyllodes tumour. <sup>(6)</sup> In our case USG finding did not confirm this classical finding and the impression of benign cystic lesion was given.

FNAC of the epidermoid cyst yields a whitish aspirate and on microscopy anucleate squames were seen. Our case also same findings were seen and were given as keratinous cyst.

Histopathological examination shows squamous epithelium with granular layer, lamellated keratin and keratin material which are the features of epidermoid cyst. This case showed same findings along with the giant cell reaction and panniculitis of the surrounding adipose tissue. Panniculitis seen in this case may be due to rupture of the cyst which has caused the inflammation of the surrounding adipose tissue and hence the patient had symptoms of pain.

If the lesions are <2cm and accurate diagnosis given on ultrasonography does not require any treatment. However these lesions present as a large palpable masses in

the breast which can cause discomfort to the patient and will require surgical excision. The removal of the entire cyst wall is recommended to prevent recurrence or malignant transformation. <sup>(7)</sup>

Although these cysts are benign it can undergo complications like rupture leading to inflammation and abscess formation. Risk of transformation to squamous cell carcinoma is 0.045% and possible association with paget's disease has also been reported. <sup>(8,9)</sup>

Malignant change occurs more in the epidermoid cyst of breast as compared to other sites, and it has been hypothesized that can be due to due to squamous metaplasia of the mammary duct epithelium. <sup>(10)</sup>

## CONCLUSION

An epidermoid cyst of the breast is an uncommon benign condition and rarely it may go into malignancy. It should be considered as the differential diagnosis for the other benign breast tumours. Surgery and histological analysis is the gold standard for the diagnosis and treatment of the epidermoid cysts.

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