

Case Report

Giant Epidermoid Cyst Presenting as Breast Lump in Male

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Abstract: Epidermoid cyst is frequently known as sebaceous cyst. Epidermoid cyst in breast is rare while, presentation as breast lump in male is an extremely rare entity and only five cases have been reported till date. We are adding one more case of giant epidermoid cyst of breast in the English literature. Unusual feature in our case was the retraction of the nipple. Epidermoid cyst should be considered as a differential diagnosis of the benign breast lump in males. Local excision through elliptical incision is the treatment of choice. In case of the involvement of nipple areola complex, part of uninvolved areola should ideally be left for reconstruction of nipple at a later date. Biopsy is obligatory in giant cyst to rule out malignancy.

Keywords: Giant epidermoid cyst, Benign lump, Male breast, Nipple.

INTRODUCTION

Breast is an uncommon site for an epidermoid cyst while, presentation as breast lump in male is an extremely rare entity and to the best of our knowledge only five cases have been reported in the English literature till date [1-3]. We herein present a case of giant epidermoid cyst mimicking breast lump in male. Unusual feature in our case was the retraction of the nipple. Thus rarity justifies reporting of the present case with an endeavor to make surgeons aware of this entity along with its management.

CASE REPORT

A 32-year-old male presented with enlargement of the right breast since last 5 years. Swelling was insidious in onset and slowly increasing in size. There was no history of pain, fever, cough or any trivial trauma. No other significant history was available. Feeling of shyness did not let him to seek medical advice.

On examination of right breast a single, spherical, smooth, well defined, non tender swelling of 10×10 cm in size lying beneath the nipple areola complex was present. Indentation of the swelling was positive. The overlying areola was shiny and stretched along with

retraction of the nipple (Fig.1). Punctum could not be appreciated. Adjacent skin was unremarkable. Swelling was free from pectoralis major muscle and chest wall. There was absence of ipsilateral axillary lymphadenopathy. Systemic examination was unremarkable.

Chest radiograph revealed soft tissue shadow with absence of any calcification; lung fields were normal (Fig.2). Preoperative facility for performing sonography of breast was unavailable, owing to resource limitations. Aspiration from the cyst was performed with a wide bore needle, prior to excision, and yield was white cheesy and flaky material suggestive of epidermoid cyst. An elliptical incision was given incorporating nipple and some part of areola. Cyst was excised completely along with the nipple, as it was firmly attached to the skin at this site. There was no involvement of the pectoralis major muscle, although it was densely adherent to the surrounding fat. Specimen was sent for histopathological examination (Fig. 3). Diagnosis was consistent with epidermoid cyst and no evidence of malignancy was seen (Fig. 4). There was no postoperative complication and patient is doing well (Fig. 5).



Fig.1: Right breast lump underlying nipple areola complex (Fig.1A); Well circumscribed, spherical breast swelling with shiny and stretched areola along with retraction of nipple is seen from the side (Fig.1B).



Fig.2: Chest radiograph (inset image) revealed well defined, soft tissue shadow over right chest wall with absence of calcification.



Fig.3: Excised specimen showing epidermoid cyst with white cheesy material, nipple along with portion of areola is seen at one end, and densely adherent surrounding fat at the other end.

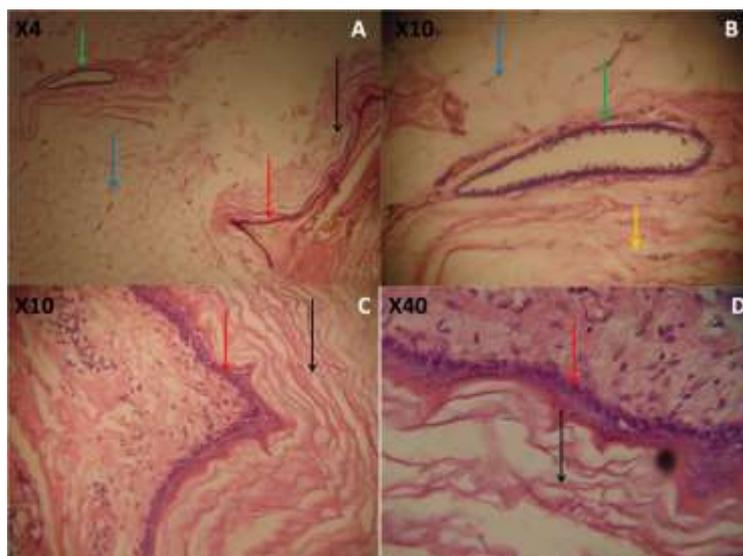


Fig.4: Photomicrographs of the histopathological specimen stained with hematoxylin and eosin shows: Cyst epithelial lining of stratified squamous epithelium (red arrows) with laminated keratin (black arrows). Mammary fat (blue arrows) and elongated duct (green arrows) is also seen within the collagenous stroma (yellow arrow). Power of Resolution A: $\times 4$, B: $\times 10$, C: $\times 10$, D: $\times 40$.



Fig.5: Postoperative photograph of patient showing healthy scar with portion of saved uninvolved areola.

DISCUSSION

Epidermoid cyst is commonly known as sebaceous cyst. It is small, spherical/dome shaped, smooth, slightly compressible, cystic benign lesion of the skin. Common sites of presentation are scalp, face, neck, back, scrotum, male and female external genitalia and ear lobe, while its presentation as large breast lump in male is exceptional [1-3]. Common age of presentation is young adult male during third or fourth decades of the life, as seen in our case.

Size of an epidermoid cyst varies from 0.5 to 5 cm, while cyst >5 cm is referred to as giant sebaceous cyst [4-6]. The enormous size of breast epidermoid cyst is due to avoidance and feeling of embarrassment on the part of patient. They are often unilocular, as in our case, but giant cyst may be multilocular [6]. Although clinical diagnosis can be made from black, keratin filled punctum in the center, particularly in white race, but it may not be well appreciated in large cysts [6]. In our case nipple retraction and non-visualization of punctum was due circumferential retraction of the areola around the nipple. An epidermoid cyst is attached to the skin at the site of punctum, but free from the breast and deeper tissues, but in our case due to long standing process, it was densely adherent to the surrounding breast substance.

It occurs due to obstruction of the hair follicle/pores, resulting in proliferation of epidermal cells (stratified squamous epithelium and keratinocytes) within a confined area of the skin. Infundibulum of hair follicle is the source [1-6]. Trauma, insect bite, surgery, reduction mammoplasty or breast augmentation, needle biopsy, squamous metaplasia of the columnar epithelium of the ducts, are the etiological factors mentioned in the literature [1-6]. However in our case no specific cause could be established, therefore it appears that obstruction of hair follicle is cause of its origin.

Epidermoid cyst are usually asymptomatic, but may become secondarily infected, inflamed, or rupture spontaneously. Rupture leads to discharge of soft, white cheesy material with foul smell. Rarely malignant transformation in the form of squamous cell carcinoma, basal cell carcinoma, mycosis fungoides, and melanoma has also been reported, particularly in Giant epidermoid cysts, hence the importance of complete surgical excision and histopathological examination [7].

Hereditary syndromes like Gardner's syndrome (presence of cysts in unusual locations), and basal cell nevus syndrome are its rare association [8].

Differential diagnosis of benign male breast lump includes gynecomastia, lipoma, epidermoid cysts, Pseudoangiomatous Stromal Hyperplasia (PASH), intraductal papilloma, subareolar abscess, hematoma, and very rarely fibroadenoma. The malignant entities are Invasive Ductal Carcinoma, Papillary Carcinoma and rarely Primary lymphoma of breast [9]. Common causes of breast lump in males, their associated features, characteristics and management is shown in Table1 [1-10].

Imaging options include radiography, ultrasound and mammography. A well defined soft tissue shadow and absence of calcification are present on chest radiograph. Onion skin pattern (corresponding to the lamellated keratin with alternating concentric hyperechoic and hypoechoic rings) is seen on the sonography [10].

Treatment of giant epidermoid cyst of breast is surgical. Local excision through elliptical incision, preferably with a suction drain in place is the treatment of choice. Biopsy is obligatory in giant cyst to rule out malignancy. In case of the involvement of nipple areola complex, part of uninvolved areola should ideally be left for reconstruction of nipple at a later date.

Table1: Common causes of breast lump in males, their associated features, characteristics and management

	Differential diagnosis	Gynecomastia	Lipoma	Epidermoid cyst	Cancer breast
1	Frequency	Most common	Second	Third	Relatively rare
2	Benign/ Malignant	Benign	Benign	Benign	Malignant entity
3	Age distribution	Bimodal	Any age, but rare in children	Third or Fourth decades	Advanced age
4	Laterality/ involvement	Unilateral or Bilateral	Unilateral	Unilateral	Unilateral
5	Location	Diffuse (all quadrants) Central Subareolar	Any site	Hair follicle bearing region	Centrally located Subareolar Upper outer aspect
6	Characteristics on examination	Diffuse enlargement of breast occupying all quadrants or well localized small, firm subareolar nodule	Soft, well-defined lobular, non tender, mobile swelling. Slip sign.	Small, spherical/dome shaped, smooth, slightly compressible, cystic mass, underneath skin	Firm painless mass Adherent to skin or pectoralis. Nipple retraction, Bloody nipple discharge.
7	Cause/ risk factors	Hormonal imbalance Oestrogen excess Testicular tumors Non testicular tumors	Universal tumor	Retention cyst Result of blockage of the duct of sebaceous gland, which opens directly to skin surface or into a hair follicle	Radiation exposure Bilateral undescended testis, Klinefelter syndrome, Liver dysfunction
8	Associations	Chronic liver disease, Renal failure, Klinefelter syndrome, Hyperthyroidism, Hepatomas, Exogenous hormone	Multiple lipomas are associated with MEN syndrome (Multiple Endocrine Neoplasia syndrome)	Gardener's syndrome Basal cell nevus syndrome Pachyonychia congenital	Hereditary breast cancer
9	Pathology	Proliferation of ductal(epithelial) and stromal elements	Fat-containing lesions	Proliferation of epidermal cells	Invasive Ductal Carcinoma, Papillary Carcinoma
10	Imaging Radiography Ultrasound	Ultrasound: Absence of spiculations, Lack of calcifications	Difficult to distinguish from normal breast tissue	Ultrasound: Solid and well circumscribed. Onion skin appearance	Ultrasound: Irregular hypoechoic masses
11	Treatment	Excision Well localized: Circumareolar incision Large diffuse: Gilliard Thomas submammary incision	Excision	Excision Elliptical incision centered at the site of punctum or where it is attached to the skin.	Modified radical mastectomy

CONCLUSION

Epidermoid cyst should be considered as the differential diagnosis for the breast lump in males. Treatment of giant epidermoid cyst of breast is local excision through elliptical incision. In case of the involvement of nipple areola complex, part of uninvolved areola should ideally be left for reconstruction of nipple at a later date.

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