

# Cytohistologically Diagnosed Giant Intramammary Epidermal Inclusion Cyst- An Interesting Breast Carcinoma Mimic

HEMALATHA. A. L, ABHISHEK. M.G, VIJAY SHANKAR. S, ANOOSHA. K, ASHOK. K. P

## ABSTRACT

Epidermal inclusion cyst arising from the breast is a very interesting, rare, benign and diagnostically challenging condition since it may easily be mistaken clinically for malignancy, thereby creating undue anxiety and apprehension until the definitive diagnosis is formulated.

Epidermal inclusion cyst results due to proliferation and implantation of epidermal elements which get compartmentalized as cysts within the dermis. The common sites of occurrence include face, trunk, extremities and scalp. But, epidermal inclusion cysts of the breast are rare. They deserve attention and importance since they may be misdiagnosed as malignant breast neoplasms both on clinical and radiological

examination. Fine Needle Aspiration Cytology (FNAC) and histopathological examination play a pivotal role in their diagnosis and management.

We report a case of a huge epidermal inclusion cyst of the breast occurring in a 55 year old female which was clinically and radiologically diagnosed as breast abscess and referred for evaluation to rule out malignancy.

A definitive opinion of epidermal inclusion cyst was offered on FNA since the aspirate had the classic gross and microscopic features. Considering the huge size of the breast mass, a complete cyst excision was performed and the cytodiagnosis was confirmed by histopathological examination.

**Keywords:** Epidermal inclusion cyst, Follicular infundibular cyst, Intramammary

## INTRODUCTION

Epidermal inclusion cyst or follicular cyst is a dome-shaped nodule arising from the infundibulum of the hair follicle and located in the dermis.

On clinical examination, the mass usually presents with a firm but malleable feeling suggestive of semi-solid content within it. It contains cheesy and foul-smelling keratinous content which is very characteristic and diagnostic during aspiration or drainage of the mass.

Though the cyst is termed an epidermal inclusion cyst, it is actually present in the dermis and results from the proliferation and accumulation of keratin resulting in a cystic mass which invaginates into the dermis [1]. Sometimes, the inclusion cyst may be secondary to trauma which leads to the implantation of the epidermis into the dermis. The cyst is lined by stratified squamous epithelium that contains a granular layer and is filled with concentric layers of lamellated keratin [2]. As the lining resembles the infundibular portion of the normal hair follicle, it is sometimes referred to as "follicular infundibular cyst".

This benign cyst is usually very small and is seen as an intradermal subcutaneous lesion. It can occur anywhere in

the body but is most commonly seen on the face, trunk, scalp or extremities [1]. Only a few cases of epidermal cyst of the breast have been reported in literature.

A rare case of a giant sized epidermal inclusion cyst of the breast is reported here along with a brief review of literature.

## CASE SUMMARY

A 55 year old female patient presented to the surgical department with a history of painless lump in the right breast which she noticed three months ago.

Local examination revealed a deep seated non-tender, well-delineated mass in the right breast, which was soft to cystic in consistency measuring 9 x 8 x 5 cms. It was freely mobile in all directions. The overlying skin was normal. Nipple and areola appeared normal. There was no axillary lymphadenopathy.

General examination revealed no significant findings

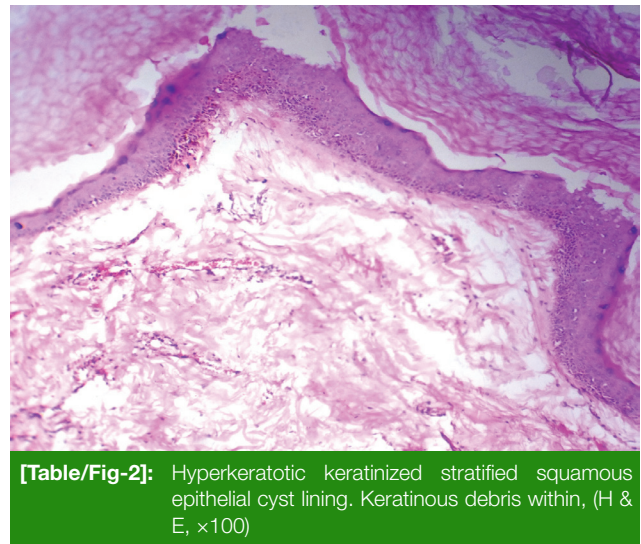
**Provisional Clinical diagnosis-** Breast abscess

**Ultrasonography-** Showed a solid, hypoechoic area with heterogeneous internal echoes and a well demarcated border.

An ultrasound guided Fine Needle Aspiration Cytology was



**[Table/Fig-1]:** Cut section- Uniloculated cyst containing necrotic debris



**[Table/Fig-2]:** Hyperkeratotic keratinized stratified squamous epithelial cyst lining. Keratinous debris within, (H & E,  $\times 100$ )

performed. A characteristically thick, yellowish, viscid material with offensive odor was aspirated. Smears studied showed keratinous debris with predominance of nucleated and anucleated squamous cells. There was no evidence of ductal and stromal elements of the breast.

**Cytological diagnosis-** Benign cystic lesion (Possibility of epidermal inclusion cyst or dermoid cyst was suggested.)

Per-operatively, the cystic mass could be easily enucleated. The specimen was submitted for histopathological examination.

## HISTOPATHOLOGICAL FINDINGS

**Gross examination-** Showed a cystic mass measuring 7 x 6 x 4 cms with an attached tag of skin.

Cut section- showed a uniloculated cyst containing foul-smelling, necrotic debris [Table/Fig-1].

Microscopic findings- A cyst lined by hyperkeratotic, keratinized, stratified squamous epithelium. Plenty of anucleated squames were seen within the lumen [Table/Fig-2].

Final diagnosis- Intramammary Epidermal Inclusion Cyst.

## DISCUSSION

Epidermal inclusion cysts also referred to as epidermoid cysts or follicular cysts are common benign inflammatory lesions, seen in various parts of the body with an increased predilection for face, neck, scalp and trunk. Very few cases of epidermal inclusion cysts of the breast have been reported in literature. Majority of these reported cases were of small size. One or two exceptionally large cases have been reported [3]. The present case adds up to the existing small number of giant sized epidermal cysts of the breast. Large sized epidermal cysts may result in complications like spontaneous rupture with release of keratin which may induce a foreign body reaction or granulomatous reaction or even an abscess formation [3].

Occasional instances of development of squamous cell carcinoma in epidermal inclusion cyst have been reported. The incidence of malignant potential in an epidermal inclusion cyst has been reported to range from 0.04 % to 19 % [4,5].

The possibility of a malignancy like mucinous carcinoma will have to be considered in a large- sized soft to cystic lesion in the breast parenchyma as in the present case [4,5].

Benign epidermal inclusion cysts which are small in size and asymptomatic do not require excision. If the clinical and radiological findings are characteristic and conclusive, FNAC or biopsy may not even be necessary for confirmation. But, large and palpable epidermal cysts as in the present case need surgical excision in order to avoid physical discomfort, psychological stress and anxiety of the patient. A complete cystectomy is recommended to rule out malignant changes, also to avoid the potential risk of malignant transformation and recurrence which has been reported in about 3% of cases [6].

## CONCLUSION

Large epidermal cysts of the breast may cause undue anxiety and tension in both the patient and the clinician until a definite diagnosis is made. A simple and routine diagnostic procedure like FNAC can allay the unwarranted fears in such cases by offering a quick and definitive diagnosis.

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**AUTHOR(S):**

1. Dr. Hemalatha. A. L
2. Dr. Abhishek. M.G
3. Dr. Vijay Shankar. S
4. Dr. Anoosha. K
5. Dr. Ashok. K. P

**PARTICULARS OF CONTRIBUTORS:**

1. Professor, Department of Pathology, Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India.
2. Associate Professor, Department of Pathology, Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India.
3. Associate Professor, Department of Pathology, Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India.

4. Post Graduate, Department of Pathology, Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India.
5. Post Graduate, Department of Pathology, Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India.

**NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Hemalatha. A.L,  
No: 156, 12<sup>th</sup> Cross, 2<sup>nd</sup> Main, Jayanagar,  
Mysore- 570014, India.  
E-mail : halingappa@gmail.com

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