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KEY WORDS: Fibroadenoma, ectopic breast tissue, axillary region, vulva

FIBROADENOMA IN ECTOPIC BREAST TISSUE: A SERIES OF 3 CASES.

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ABSTRACT

Ectopic breast tissue (EBT) is defined as "a residual or aberrant breast tissue that persists from normal embryologic development". EBT is an umbrella term that refers to both supernumerary breasts as well as aberrant breast tissue. It can also harbor all the pathological benign and malignant breast diseases as it occurs in normal breast tissue, though incidence remains very low. They are clinically significant as they are associated with other congenital anomalies of the urinary and cardiovascular systems. EBT may constitute a diagnostic challenge and is often misdiagnosed as lipoma, follicular cyst or lymphadenopathy.
Owing to its rarity as a seat of origin in ectopic breast, we are reporting three cases of uncommon occurrences of fibroadenoma, two in axilla and one in vulval region in women of reproductive age groups with no congenital abnormalities.

INTRODUCTION

Ectopic breast tissue (EBT) is a condition in which abnormal accessory breast tissue is seen in addition to the presence of normal breast tissue. [1] The incidence of EBT is around 0.4-6% in women and about 1-3% in males. [2] EBT can present as a mass anywhere along the course of the embryological streak (milk line), which extends from the axilla to the inguinal region. [1] Fibroadenoma is a common benign disease of normal breast tissue and its occurrence in accessory breast tissue is very rare. [2,3] The behaviour, clinical presentation, microscopic features and prognosis are almost similar to that of breast fibroadenoma.

MATERIALS AND METHODS

A retrospective study on 50 patients was done with the clinical diagnosis of lymphadenopathy and lipoma in axillary and vulval swellings respectively by the Department of Pathology in Oxford Medical College Hospital and Research Centre, Bengaluru.

This case series was observed among patients referred from the department of Surgery and OBG for fine needle aspiration cytology over a period of 6 months from January 2017 to January 2018. Three patients were identified with EBT in axillary and vulval region. The first two patients presented with axillary swelling with a provisional clinical diagnosis of lymphadenopathy. The last case presented as a solitary, subcutaneous vulval swelling with a clinical diagnosis of lipoma or a cystic mass. Clinical examination of both breasts revealed no abnormalities and no lymph nodes or supernumerary breasts were detected in the axilla or the neck. All the three cases were clinically insignificant with no urologic or cardiovascular abnormalities were found.

Under all aseptic precautions fine needle aspiration cytology was performed for the first two cases, using 22 gauge needle and multiple slides were prepared after fixation. They were stained with H& E, Pap and Giemsa. The patients underwent excisional biopsy for the masses under local anaesthesia, and were sent for histopathological evaluation. For the third case vulval mass was sent directly for histopathological evaluation, FNAC procedure was not performed as the patient was uncomfortable.

RESULTS:

The first two patients with axillary swelling were of 32 &35 years of age. (Table 1) Clinically the axillary masses were firm, non tender, mobile with sizes varied from 1.5 - 3 cm in diameter. (Fig 1) Ultrasound also showed solid masses with non specific features with the most likely diagnosis of lymph node. FNAC from both the masses showed highly cellular smear with clusters of benign ductal epithelial cells arranged in monolayered sheets, glandular and stag horn pattern along with many bare nuclei in the background. Scanty stromal fragments were also noted. (Fig 2&3) A clear diagnosis of benign breast disease arising from ectopic breast tissue was made and was advised for excision. On Gross, the excised masses were nodular ranging from 2 to 3 cm in size. The cut surface showed homogeneous lobulated, white masses with slit like spaces. Microscopy showed a well circumscribed lesion with benign ducts arranged in pericanalicular and intracanalicular pattern lined by double layered epithelium embedded in abundant loose fibrocollagenous stroma. No atypia was noted in the lining epithelium. A diagnosis of Fibroadenoma in Ectopic breast tissue was made. (Fig 4 & 5)

Table 1.

CASES	AGE	SITE	CLINICAL DIAGNOSIS	FNAC	HISTOPATHOLOG
1.	32 yrs	AXILLA (LEFT)	AXILLARY LN	BENIGN BREAST TISSUE ARISING FROM EBT (NO MALIGNANCY NOTED)	FIBROADENOMA
2.	35 yrs	AXILLA (RIGHT)	AXILLARY LN	BENIGN BREAST TISSUE ARISING FROM EBT (NO MALIGNANCY NOTED)	FIBROADENOMA
3.	40yrs	VULVA (left)	VULVAL LIPOMA	NOT DONE	FIBROADENOMA

While the third woman presented with a left vulval mass was 40 years of age, with the probable clinical diagnosis of lipoma but was confirmed as fibroadenoma of the vulval mass in ectopic mammary tissue on histopathology.

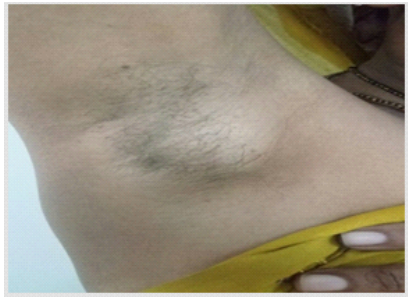


Fig.1. Right axillary swelling

Fig.3 HP FNAC shows bimodal population of cells

Fig.5: LP(10X) Histtopathology shows proliferation of ducts and stroma

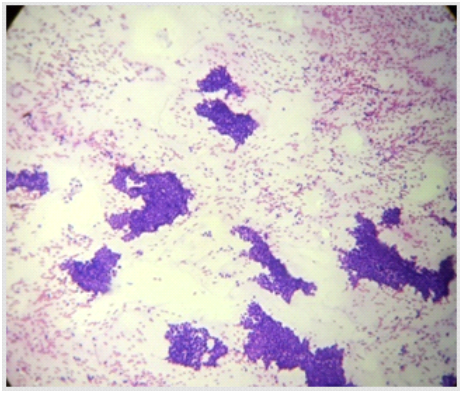


Fig.2. LP (10X) FNAC shows a cellular aspirate with ductal epithelial cells

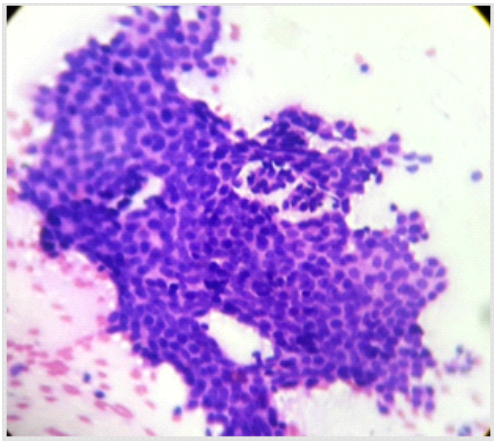


Fig.3: HP (40X) FNAC shows bimodal population of cells

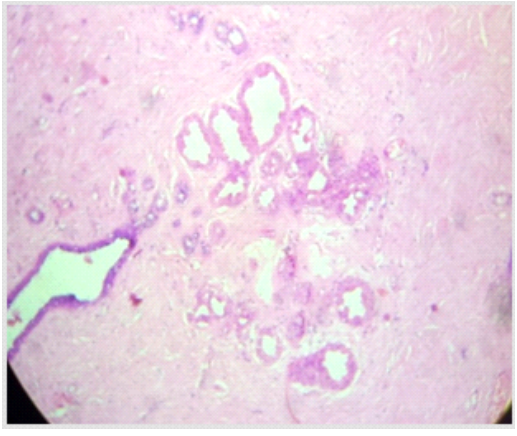
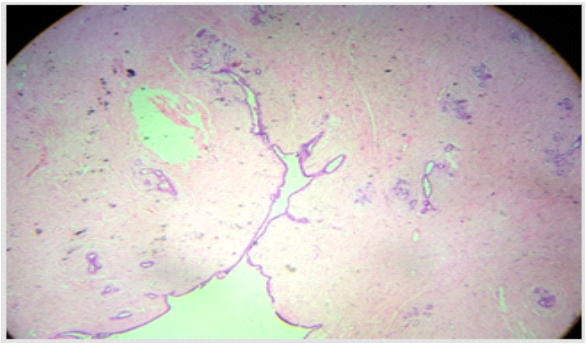


Fig 5: LP (10X) HP showed proliferation of glands and stroma



DISCUSSION

There are several theories put forward for ectopic breast tissue, accordingly the first hypothesis states that mammary ridges develop by thickening of ectoderm, during the 5th or 6th week of embryogenesis, which runs from axilla to groin. [4] Except for the two segments in pectoral region, which develop into normal breasts, remainder involutes, but in some cases they fail to involute which leads to ectopic breast in about 0.4-6% women. [2] Majority (67%) of the EBT are found in thoracic or abdominal portion of the milk line, just below the inframammary crease, only 20% of the cases EBT are seen in axilla. Putte et al also suggested that the fibroadenoma might arise from modified apocrine or eccrine sweat glands also known as mammary like anogenital glands in vulval region. [5] This hypothesis has explained the origin of fibroadenomas in sites other than milk line like face, foot, lumbar region, vulva and perineum. [6]

Among 50 patients who presented with axillary region swellings, two cases were were reported to be fibroadenoma. These swellings mimicked lymphadenopathy, which gave a clinical suspicion of, reactive lymphadenitis or nodal metastasis. They might mimic other benign conditions like epidermal cysts, axillary tail of Spence, vascular lesions, cat scratch disease, hidradenitis and hamartoma. [3,7,8] In the present case, the patient ignored the axillary ectopic breast as pad of fat unless it was enlarged and caused discomfort. If the axillary breast tissue is attached to normal breast tissue then it is called as axillary tail of Spence. In the present cases, axillary nodules were separate from the breast tissue and were situated superficially. Hence it was EBT and not extension of the breast parenchyma in the axilla.

The third case was a case of subcutaneous swelling on the left labia major, a clinical impression of a vulval lipoma was made, which added to the delay in diagnosis. Rizvi et al., have described a similar case in a 32 year old female which was clinically diagnosed to be fat hypertrophy. [9] The incidence of vulval fibroadenoma is very low and only 50 cases have been reported as benign breast disease in the medical literature. Vulval region swelling also might mimic sebaceous cyst, bartholin gland cyst, hidradenoma papillferum etc. Hartung described the first case of vulval mammary tissue in 1872. [10,11] The prognosis of vulval fibroadenoma is good and re-occurrences have not been reported.

EBT is twice as common in females as in males. [11] The average size of the tumor is 3.0 cm and is common in the age group between 20-60 years. All three cases in the present study were females varied between 30 to 45 years, in the reproductive age group. The vulval fibroadenoma had a tumor size of 2.0 cm in a 40 year old female which is comparatively higher than the axillary fibroadenomas. Ectopic breast tissue usually develops secondary to hormonal stimulation after the puberty, pregnancy or lactation. This tissue like normal breast tissue, do express the receptors for hormones like ER, PR and these can be demonstrated by immunohistochemistry, which might be useful in the demonstration of malignancies. [12].

Radiological non-invasive procedures are of great help but fine needle aspiration or core biopsy is mandatory for appropriate surgical decision.[13] FNAC was performed on both the axillary swellings; proved to be a quick and cost effective procedure giving a definite diagnosis and ruling out lymphadenitis and more importantly malignancy. [8] Excision is done for cosmetic, psychological and therapeutic reasons.

CONCLUSIONS:

It is important that clinicians be familiar with this condition and to consider this entity while evaluating the swelling or nodules in the axillary and vulval region. Ectopic breast tissue needs to be evaluated further as it might be prone to disease similar to breast tissue diseases like fibrocystic disease, mastitis, phyllodes, carcinomas etc.

REFERENCES

1. Moore KL, Persaud TVN. The integumentary system. In: Moore KL, Persaud TVN, editor. The Developing Human: Clinically Oriented Embryology.Textbook of Embryology. Philadelphia, PA: W.B. Saunders Co; 1998.p513-30.

2. Goyal S, Sangwan S, Singh P, Bawa R. Fibroadenoma of axillary ectopic breast tissue: A rare clinical entity. Clinical Cancer Investigation Journal. 2014; 3(3): 242.
3. Nayak S, Acharjya B, Devi B. Polymastia of axillae. Indian Journal of Dermatology. 2007; 52(2): 118.
4. Coras B, Landthaler M, Hofstaedter F, Meisel C, Hohenleutner U. Fibroadenoma of the axilla. Dermatol Surg 2005; 31: 1152-4.
5. Von der Putte SC. Anogenital "sweat" glands. Histology and pathology of a gland that may mimic mammary glands. Am J Dermatopathol 1991 Dec;13(6):557-67.
6. Lucas EW Jr, Branton P, Mecklenburg FE, Moawad GN. Ectopic breast fibroadenoma of the vulva. Obstet Gynecol 2009; 114: 460-2.
7. Ghosn SH, Khatri KA, Bhawan J. Bilateral aberrant axillary breast tissue mimicking lipomas: Report of a case and review of the literature. J Cutan Pathol 2007; 34 Suppl 1: 9-13.
8. Pooja Kamlesh Gajaria and Ujwala M Maheshwari. Fibroadenoma in Axillary Ectopic Breast Tissue Mimicking Lymphadenopathy. J Clin Diagn Res. 2017 Mar; 11(3).
9. Rizvi G, Pandey H, Gupta M. Fibroadenoma of ectopic breast tissue in axilla. Journal of Case Reports. 2012; 2: 36–38.
10. David Cantu de Leon, Delia Perez Montiel, Hugo Vazquez, Cesar Hernandez, et al. Vulval fibroadenoma: a common neoplasm in an uncommon site. World J. Surg. Oncol. 2009; 7:70.
11. Lin WC, Lin WL, Chuang YH, Shih PY, et al. An asymptomatic nodule in the vulva. Clinical and Experimental Dermatology. 2009; 33: 523–524.
12. Burdick AE, Thomas KA, Welsh E, Powell J, Elgart GW: axillary polymastia. J Am Acad Dermatol 2003; 49: 1154-6.
13. Rong X, Zhu Q, Jia W, Ma T, Fang Y, Zhou Y, et al. Fibroadenoma of the ectopic axillary breast tissue: sonographic appearances. Open Journal of Clinical Diagnostics. 2014; 04: 205–11.