Case Report

Bilateral fibroadenoma of the ectopic breast tissue in axilla: A case report

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Abstract

Anomalies associated with breast development are common, presenting as supernumerary nipples (polythelia) and less often as supernumerary breast (polymastia) in 1–5% of population. These anomalies are more common in women and also most frequently located along the mammary line, extending from the axilla to pubic region. The axillary polymastia is the most common variant of ectopic breast tissue (EBT). EBT can undergo the same physiological and pathological processes as the normal breast. The incidence of fibroadenoma developing in ectopic breast is a rare entity, most common being the carcinoma. We report here a case of fibroadenoma of EBT in both axillae of a 33-year-old Asian woman. This case has been reported for its rarity and to reemphasize the importance of screening of EBT for any pathology during routine screening of breast.

KEY WORDS: Fibroadenoma, axillary tail, ectopic breast tissue, axillary supernumerary breast

Introduction

Polymastia is a term used to describe the presence of more than two breasts with or without nipple–areola complex in human beings. It is synonymous with supernumerary or ectopic breast tissue (EBT). Axillary breast tissue is a common variant of EBT. Diagnosis of EBT is important because it shows similar pathological changes that occur in normally positioned breast and can be a marker for urogenital and cardiovascular malformation or urogenital malignancies.[1,2]

Case Report

A 33-year-old woman was admitted in our hospital with complaints of bilateral lumps in preexisting axillary swellings (20 years) for the past 3 months. The painless lumps were insidious in onset and slow in progression. The bilateral preexisting axillary swellings were present since the adolescent age. On local examination, both axillary tails of the breast were enlarged and palpable lumps measuring about 3 × 2 cm, which were freely mobile within the enlarged axillary tails, were found [Figure 1]. Also, the patient was not associated with other congenital anomalies.

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Figure 1: Patient with bilateral axillary tail

Ultrasonogram of the breasts and axillae was conducted, which showed a single discrete lump in both enlarged axillary tails and normal breasts. Fine-needle aspiration cytology (FNAC) of both lumps was conducted and fibroadenoma of axillary tails was diagnosed [Figure 2]. En masse excision of both axillary tails was done [Figure 3] and the specimens [Figure 4] were sent for histopathological study. Both mass lesions in the axillary tail were confirmed as fibroadenoma by the histopathology results [Figure 5].

Discussion

During the sixth week of embryonic life, the mammary milk lines, which represent two ectodermal thickenings, develop along the side of the embryo, extending from the axillary region to the groin. In normal development, most of the embryological mammary ridges resolve, except for two segments in pectoral region, which later become breast. Failure of any portion of the mammary ridge to involute may lead to ectopic breast with (polythelia) or without (polymastia) a nipple–areola complex.[1–3] Polythelia may associate with urinary anomalies such as supernumerary kidneys, failure of renal formation, and renal carcinoma. Usually, ECT occurs sporadically, but a hereditary predisposition has also been reported.[2,4]

Most of EBT occur along the milk line in the axilla, but other than the milk line region its occurrence in areas such as the perineum, face, lumbar region, and vulva has been reported in literature.[1–3] Supernumerary tissues present in any location other than along the milk line are supported by two beliefs:

1. A migratory arrest of breast primordium during chest wall development
2. Development from the modified apocrine sweat gland[2,4]

In 1915, Kajava described a classification system for supernumerary breast tissue, which is commonly used

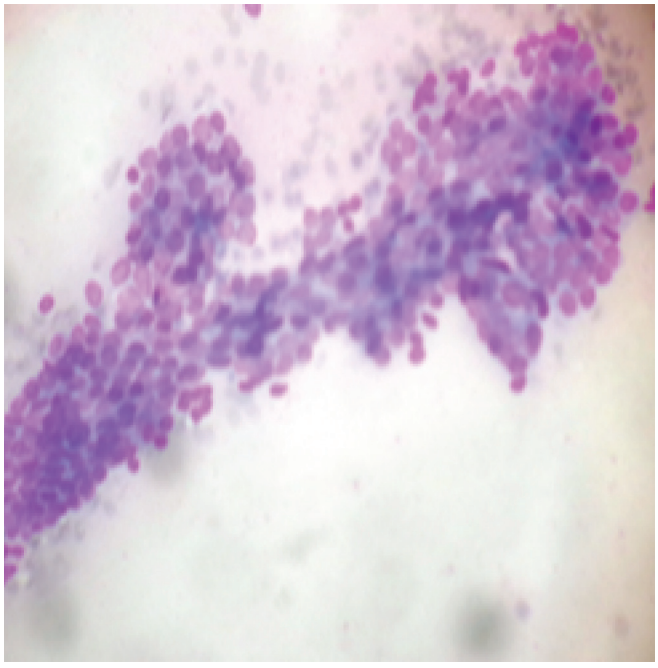

Figure 2: FNAC of mass in the axillary tail shows features suggestive of fibroadenoma

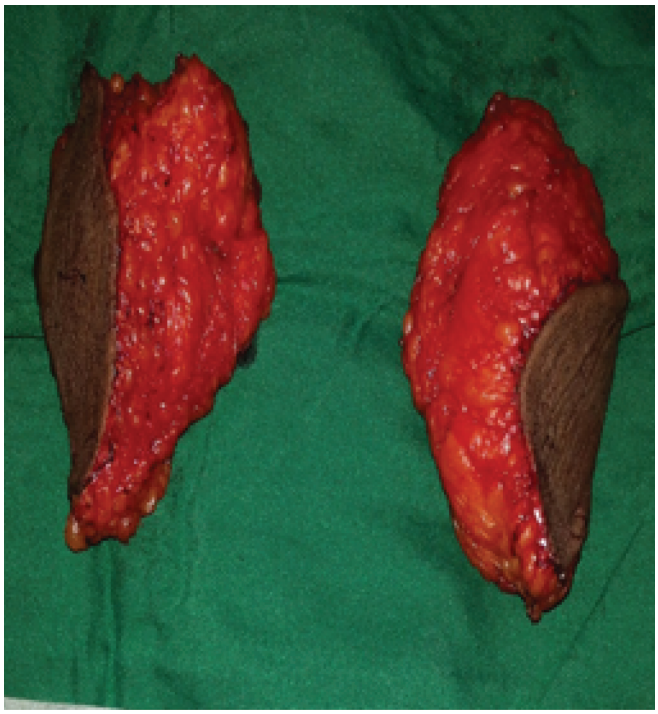

Figure 3: En masse excision of both axillary tails

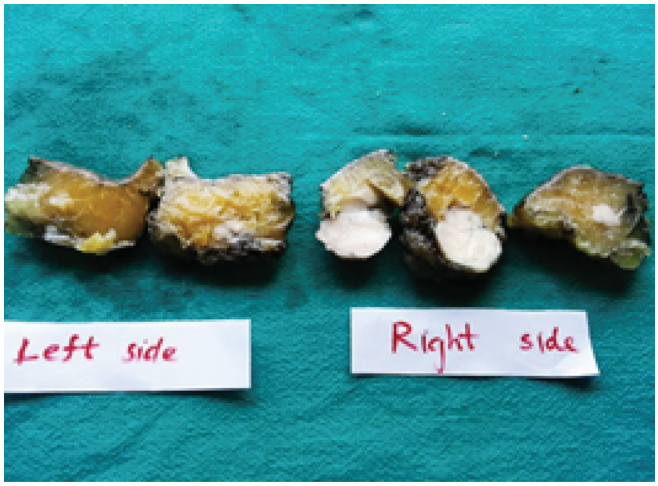

Figure 4: Gross specimens of both side fibroadenoma

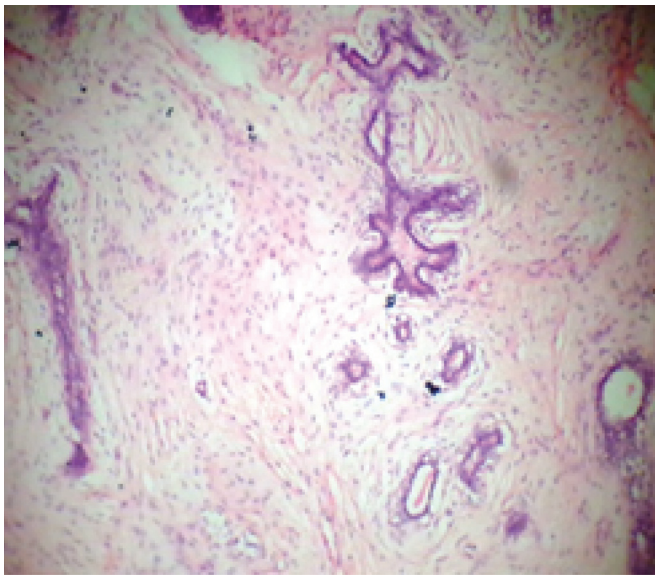

Figure 5: Microscopic picture of fibroadenoma

today[2,4]: Class I—complete breast with nipple, areola, and glandular tissue; Class II—nipple and glandular tissue but no areola; Class III—areola and glandular tissue but no nipple; Class IV—glandular tissue only; Class V—nipple and areola but no glandular tissue; Class VI—nipple only; Class VII—areola only; Class VIII—patch of hair only (polythelia pilosa).

According to the literature, the incidence of these anomalies ranges between 1% and 6%, being more common among blacks, Jews, and Japanese. Gilmore *et al.* from their study on a population of American women found that supernumerary nipple and accessory breast tissue were more common in the Native American women than in the non-native women. Their study indicates the role of genetic basis in the development of these breast anomalies, and similar observations have been published by Klinkerfuss and Hersh *et al*. [4]

The clinical significance of supernumerary breast, apart from cosmetic and psychological impacts, falls into the susceptibility to same physiological and pathological changes affecting normal breast. As compared to normally positioned breast tissue, EBT shows the same hormonal effects. During menses or pregnancy, hormonal stimulation may cause enlargement and discomfort. EBT can undergo lactational changes during pregnancy, and in the presence of a nipple–areola complex, it can give rise to lactational secretion.[1,4]

EBT is subject to hormonal response and may develop benign and malignant pathologic processes similar to those seen in normally located breast tissues, including fibrocystic disease, fibroadenoma, inflammatory disease, intraductal papilloma, lactating adenoma, and carcinoma.[1,4] Although carcinoma of the axillary accessory breast is rare, accounting for 0.3% of all breast cancers, the most frequent condition in the accessory breast cancer followed by mastopathy/inflammatory condition and fibroadenoma.

Tumors in supernumerary breast tissue should be diagnosed using the same methods applied to normal breast tissue (mammography, ultrasonography, cytology, and excision biopsy of the nodule in axilla), with observation of specific indications. However, due to the low incidence of such tumors, diagnosis may be delayed or even ignored, thus making treatment more difficult. When tumors or nodules are found along the mammary line, the presence of breast tissue should be considered during investigation.[5,6]

Few cases of fibroadenoma in the axilla have been reported in literature. To the best of our knowledge, only one case of fibroadenoma in bilateral EBT in axilla has been reported.[7]

Axillary breast tissue can be represented by ectopic tissue not connected to the breast. It may also be connected to the external part of thoracic breast; in this case, it is called the axillary tail of Spence. EBT, especially when found in the axilla, is located in the subcutaneous tissue and deep dermis of the skin, where it often mingles with normal skin appendage glands. For the pathologist, it may be difficult to distinguish between tumors of skin appendage gland origin and mammary origin. This may explain the cytological report in our case that suggested an adnexal tumor.[8]

The diagnosis of EBT is strongly suggested by the history of cyclic changes during the menstrual period or by the initial appearance during pregnancy. Evidence from the natural history of fibroadenoma of breast suggests that less than 5% of these tumors increase whereas approximately one-fourth decrease in size. This case shows a rare occurrence of fibroadenoma in an axillary supernumerary breast. Although the benign nature and natural history of fibroadenoma are well known, biopsy should be considered for women aged 40 years or older due to the increased rate of cancer in this age range.[9] Among women of this age, if conservative management is chosen, periodic clinical and mammographic control is required, following negative results of cytological tests. The need for careful investigation of supernumerary breast tissue should be emphasized, because it may be affected by benign and malignant diseases.[5]

If EBT is associated with any suspicion of pathology, then further investigation using methods such as FNAC, ultrasonogram, mammography, and biopsy should be conducted as for any other breast lesion.[10] In routine screening programs for breast cancer, a clinical examination should be made for the presence of EBT, and, if present, that should be subjected to routine screening as well, along with the normally positioned breast.

Conclusion

To conclude, fibroadenoma should be kept in mind in the differential diagnosis of axillary swellings. Fibroadenoma in EBT should be diagnosed with the same methods applied to normal breast tissue (mammography, ultrasonography, cytology, and biopsy). When tumors or nodules are found

along the mammary line, the presence of breast tissue should be considered during the investigation. The patients should be evaluated for any associated urogenital and cardiac anomaly.

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