

Axillary Breast Fibroadenoma Mimicking Tubercular Lymphadenopathy: A Rare Case Report

Hemant KS^{1*} and Shivani P²

¹Department of Pathology, Pathologist HOD, Government Hospital, India

²Department of Medical Officer, India

***Corresponding author:** Hemant Kumar Sharma, Pathologist HOD, Department of

Pathology, Government Hospital, Bagdogra, Darjeeling, West Bengal, 734424, India, Email: hemant1303@gmail.com

Case Report

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Abstract

Polymastia (Breast tissue with nipple- areola complex) and Polythelia (only nipple) are rare developmental abnormalities of breast due to persistence of milk ridge and seen in 1-5% of general population Supernumerary Breast tissue undergoes hormonal changes and develops various benign and malignant lesions similar to normal breast. Differential diagnosis of Axillary breast tissue can be inflammatory lesions like Lymphadenopathy and Lymphadenitis, benign lesions like lipoma and fibroadenoma, malignant lesions like metastasis and frank breast carcinoma. We report a case of Left Axillary breast fibroadenoma in 19 year old girl clinically presented as Tubercular Lymphadenopathy.

Keywords: Axillary Breast; Tissue Supernumerary Breast; Fibroadenoma; Tuberculous Lymphadenopathy

Abbreviations: EBT: Ectopic Breast Tissue; ESR: Erythrocyte Sedimentation Rate; FNAC: Fine Needle Aspiration Cytology; BCG: Bacillus Calmette–Guérin.

Introduction

Axillary Breast tissue, a common variant of Ectopic Breast tissue (EBT), also known as supernumerary breast or accessory breast, is a developmental anomaly arising due to incomplete regression of 'milk ridge' extending from axilla to groin with incidence of 1-5% in general population (Females>males) and predominantly seen in people of Native American, African, Jewish, and Japanese descent [1-4]. Though mostly sporadic, About 6% cases are familial and show autosomal dominant inheritance with variable penetrance [2,3]. Usually present since birth and lying dormant, EBT undergoes similar physiological

and pathological changes as seen in normally placed breast during pregnancy, lactation and menstruation [2,5-6]. Rarely, accessory breast tissue can develop Breast carcinoma (0.3% of all breast cancers), followed by mastopathy, mastitis, fibroadenoma, and fibrocystic change in decreasing order [5-7]. In developing countries like India, Tuberculous lymphadenitis becomes an important differential in evaluation of Axillary Lump with past history of Pulmonary Tuberculosis. We report a case of Axillary Breast tissue fibroadenoma clinically presented as Tubercular Lymphadenopathy to emphasise the importance of thorough evaluation of axillary lump to differentiate it from Tuberculous Lymphadenopathy and for early detection of various benign and malignant lesions arising in breast tissue and other related congenital renal and urogenital abnormalities.

Case Details

19 years old female patient reported in Outpatient department with 6 months history of non-tender swelling in the Left Axilla, separated from Left Breast and without any variation in size, shape, consistency or discharge along with history of weight loss. On examination, she had 3x3 cm, round, lobular, freely mobile, firm to hard swelling in Left Axilla. Bilateral breast examination was normal and did not reveal any developmental abnormality. She was treated for Pulmonary Tuberculosis 2 years back with anti-tubercular treatment. Based on her past history of Pulmonary Tuberculosis, she was clinically diagnosed as a case of Tubercular Lymphadenopathy. Her systemic examination was normal. She did not give any recent history of any drug intake or substance abuse. No family of breast cancer or any other systemic or congenital disease could be elucidated. Her Chest X-ray was normal. Routine laboratory investigation showed normal hemoglobin, Total and differential Leukocyte count and erythrocyte sedimentation rate (ESR). However, Montoux test was positive with 15 mm induration. Ultrasound of the axillary lump revealed 2.7x2.5 cm homogenous, hypoechoic well circumscribed space occupying lesion, not attached to axillary tail of Spence and without any evidence of breast tissue or inflammatory lesion. Fine needle aspiration cytology (FNAC) of Lump revealed cellular aspirate which were stained with Leishman Giemsa stain and Papanicolaou stain (PAP). Stained cytology slides showed bimodal population of ductal epithelial cells arranged in sheets and clusters in 'stag-horn' pattern with benign nuclear features in a background of numerous bare nuclei and fibromyxoid stroma consistent with diagnosis of Fibroadenoma (Figures 1A & 1B).



Figure 1(A): Gross Examination of Breast Lump-3x2x2 cm, Firm, Lobulated mass.



Figure 1(B): Cut section of Breast Lump-Grayish white firm to hard fleshy areas, No necrosis.

No evidence of granuloma or malignancy seen. Based on FNAC findings, she was taken up for lump excision. Gross examination of excised breast Lump revealed grayish white, lobulated, firm to hard tissue measuring 3.0x2.0x 2.0 cm covered with thin capsule without any area of hemorrhage or necrosis. Hematoxylin and Eosin stained slides revealed ducts lined by cuboidal epithelium resting on myoepithelial cells layer and surrounded by abundant stroma invaginating in ductules consistent with diagnosis of Fibroadenoma (Figures 2 & 3) subsequently, she was discharged and have not reported for any recurrence.

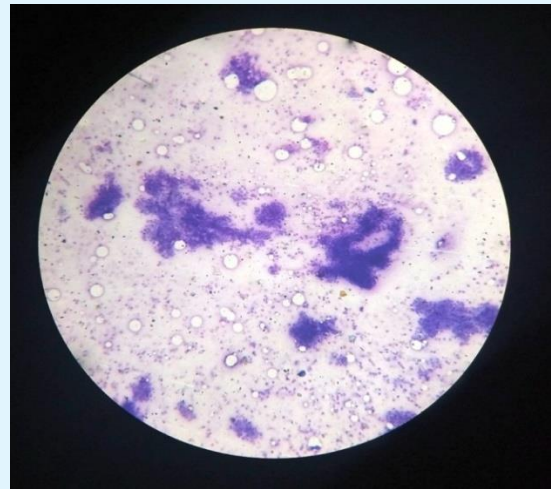


Figure 2: FNAC of Axillary Lump-Cellular aspirate, bimodal cell population, Ductal cells in sheets and 'stag-horn' pattern, numerous bare nuclei (Leishman Giemsa x100).

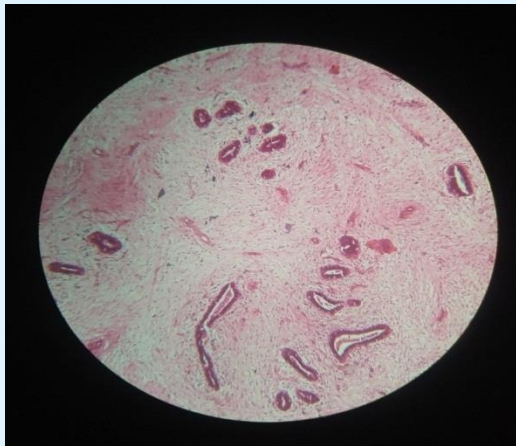


Figure 3: Histopathology of Axillary Lump showing proliferating ducts and stroma (Hematoxylin and Eosin X200).

Discussion

During 4th- 6th week of embryo development, paired ectodermal thickenings termed mammary ridges

develops from axilla to medial things on ventral surface of the embryo and extend in a curvilinear fashion. Except for two ectodermal prominences on pectoral region at the level of fourth intercostals space on the anterior thorax which later on becomes normal breast, most of the mammary ridge involutes. EBT is persistent mammary ridge segments which fail to involute and present anywhere from axilla to groin [1,3,7,8]. In about 67% cases, EBT is seen in Thoraco-abdominal region of 'milk-line', just under Infra mammary crease and mostly on left side while axillary EBT is seen in 20% cases (Mostly in lower axilla). Remaining 13% can be seen anywhere along 'milk line' [1,3,8]. Due to development of Accessory breast tissue from other apocrine glands and migratory developmental arrest of mammary ridge, EBT can also possibly occur anywhere away from 'milk line' at sites like face, foot, vulva, thighs, perineum, upper arm, shoulders and lumbar region [1,6-9]. Accessory breast tissue can present with nipple-areola complex (polythelia) or without (polymastia). In 1915, Kajava [10] categorized Accessory Breast Tissue in to eight different classes based presence or absence of glandular tissue and nipple-areola complex (Table 1).

Class I	Complete breast including glandular tissue, nipple, and areola
Class II	Only glandular tissue and nipple, without areola
Class III	Only glandular tissue and areola, without nipple
Class IV	Only glandular tissue
Class V (Pseudomamma)	Only nipple and areola, without glandular tissue
Class VI (Polythelia)	Only nipple
Class VII (Polythelia areolaris)	Only areola
Class VIII (Polythelia pilosa)	Only hair

Table 1: Kajava's Classification of Accessory Breast Tissue.

Our patient belonged to Class IV of Kajava Classification. Renal and genitourinary congenital abnormality like renal agenesis, supernumerary kidneys and renal cell carcinoma and Various systemic disorders like vertebral abnormalities, pyloric stenosis, testicular carcinoma and aberrant ventricular conduction can occur with accessory breast tissue possibly because of parallel development of mammary structure and genitourinary system [1,4,9].

After Histopathological confirmation of EBT, our patient was advised USG Whole abdomen and regular urine analysis to rule out any urogenital abnormalities. In the evaluation of axillary lump, Accessory breast tissue form a part of important differential diagnosis, others being lipoma, sebaceous cyst, lymphadenopathy, vascular

malformations, suppurative hidradenitis, axillary lymph node metastasis from breast cancer, Tuberculosis, Axillary tail of Spence and torn muscle belly [1,5,7,8]. In our patient, initial diagnosis was Tuberculous Lymphadenopathy because past history of Pulmonary Tuberculosis, Positive Montoux Test, History of weight loss and no change in EBT with cyclic hormonal changes due to menstruation. According to Nwagbara, et al. Tuberculous lymphadenitis affects 17-43 % of Extrapulmonary Tuberculosis cases, out of which Axillary nodes are affected in 3.8-20% cases. Clinically, Tuberculous lymphadenitis presents as painless, slowly progressive swelling of single group of lymph nodes (Unilateral in 85% cases) [11]. In developing countries like India, Axillary Lump with past history of Pulmonary Tuberculosis requires thorough clinical evaluation to

differentiate EBT from Tuberculous Lymphadenopathy. In our case, Montoux test was positive because previous history of Bacillus Calmette–Guérin (BCG) vaccination in childhood and Weight loss was due to extreme diet conscious psyche of teenage patient. Accessory breast Tissues are usually asymptomatic except for cosmetic and psychological considerations and can be mistaken for soft tissue tumors in Kajava Class III, IV, VII, and VIII [6,7]. However, Early diagnosis of EBT is very important particularly in axilla and vulva due to frequent pathological changes including inflammation, fibrocystic disease, tumors like Fibroadenoma, Cystosarcoma Phylloids, Breast carcinoma including Ductal, Medullary, Papillary and Lobular types and other malignancies like rhabdomyosarcoma, epidermoid carcinoma, neuroendocrine tumors, lymphoma and melanoma [1,5,9,12]. Shin, et al. reported a rare case of Invasive Secretory (Juvenile) carcinoma in EBT [12]. Due to these broad differential diagnoses and low incidence of such tumors, EBT carcinomas are usually diagnosed late in advanced stages with poorer prognosis [5,7]. For Definitive Diagnosis, Non invasive procedures like FNAC, core Biopsy and routine radiological investigation are mainstay. Treatment modalities for benign entity like Fibroadenoma require excisional biopsy while malignant lesions need wide local excision with chemotherapy /radiotherapy [6,8]. Clinical Awareness and Special emphasis must be given in routine breast cancer screening programmes to examine for possible accessory breast tissue and cases must be thoroughly evaluated [9].

Conclusion

Accessory Breast tissues are developmental anomaly present anywhere along 'milk line' and sometimes away from it. Association of EBT with urogenital developmental anomalies and malignancy is well established. Since Malignancy and mastopathy are most common lesions seen in Accessory Breast tissue, Axillary EBT are usually mistaken for various benign and malignant conditions. Tuberculous Lymphadenopathy becomes an important differential in TB Endemic developing countries like India. Apart from cosmetic and psychological reasons, any axillary lump should be thoroughly evaluated with high index of suspicion for urogenital diseases and malignancy for early diagnosis and better treatment options.

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