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CASE REPORT

Bilateral Ectopic Axillary Breast Tissue with Duct Ectasia: An Unexpected Occurrence

Hima Sree Edupuganti, Archana Shetty, Supriya T.R, Rohit Krishnappa*, Nidha Gaffoor

Abstract

Accessory breast tissue results due to failure of mammary streaks regression during embryogenesis. Patients present with palpable masses associated with cyclical pain in addition to cosmetic concerns.and this entity must be considered in differential diagnosis of axillary masses. Duct ectasia results when lactiferous ducts are blocked by secretions. We report a case of bilateral painful axillary swellings in a thirty-one-year-old female, histopathological diagnosis of which was accessory breast tissue with duct ectasia. We intent to highlight morphological spectrum of uncommon lesions breast tissue can exhibit in ectopic sites and need of timely surgical management to avoid future complications.

Keywords

Breast, Axilla, Malignancy, Inflammation

Introduction

Ectopic breast tissue can be of two types : Supernumerary- having an accessory nipple or areola formation or both with or without glandular elements and Abberant- when ectopic breast tissue is without a nipple or areola complex.[1] Diagnosis of ectopic breast tissue is of significance as it can show the same spectrum of pathologic changes that occur in naturally positioned breasts including fibrocystic changes, mastitis, fibroepithelial lesions, atypical ductal or lobular hyperplasia and frank malignancy.[2] Mammary duct ectasia is a lesion usually seen in peri and post-menopausal age characterized by different degrees of periductal inflammation and fibrosis with duct dilation. We present an unusual case of bilateral axillary breast tissue with duct ectasia.

Case Report

A 31-year-old married female, presented to the surgical out patient department with bilateral, painful axillary swellings. She had noticed the swellings during delivery of her second chils, three years ago and had stopped breast feeding since a year. The swellings were associated with cyclical pain during menses. With an apprehension of lesions being potentially cancerous and cosmetic concerns, she consulted the surgeon. On physical examination, bilateral axillary lumps were noted with overlying skin being normal. Breast examination was normal.

Ultrasonography of right axilla showed ill-defined hyperechoic areas similar in echogenicity to fibro glandular

Departments of Pathology and *General Surgery, Dr. Chandramma Dayananda Sagar Institute of Medical Education and Research, Ramanagara, Karnataka, India

Correspondence to: Dr. Archana Shetty, Professor, Department of Pathology, Dr.Chandramma Dayananda Sagar Institute of Medical Education & Research, Dayananda Sagar University, Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara District, Karnataka, India - 562112

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breast tissue. Left axilla showed an ill-defined hypoechoic area with tubular areas in addition to few hyperechoic areas. Multiple sub centimetric lymph nodes suggestive of reactive nature were noted. An impression of like hood of accessory breast tissue was made *(Figure 1a)*. FNAC of both masses showed benign ductal epithelial cells *(Figure 1b)*. Routine biochemical and hematological parameters including serum prolactin levels were within normal limits. Surgical excision of masses was done under general anesthesia and sent for histopathological examination.

On gross examination both tissues were homogenous yellow fatty masses with grey white to brown rubbery areas. Few creamy areas indicating inspissated secretions were noted *(Figure 2a & 2b)*. Left axillary tissue showed a well-defined grey white myxoid area measuring 1.5 x 1 cms across.

Microscopy of both showed similar features. Interspersed in the fat was glandular breast tissue surrounded by fibrotic stroma Many ducts were cystically dilated containing luminal secretions and occasional cyst macrophages. Lining of ducts was flat with no apocrine or hyperplastic changes. Foci of periductal fibrosis accompanied by chronic inflammatory infiltrate was seen with adjacent fibrofatty tissue being unremarkable. A diagnosis of bilateral axillary breast tissue with duct ectasia was conferred *(Figure 3a & 3b)*. The patient had an uneventful post operative stay and is currently doing well after a follow up of four months.

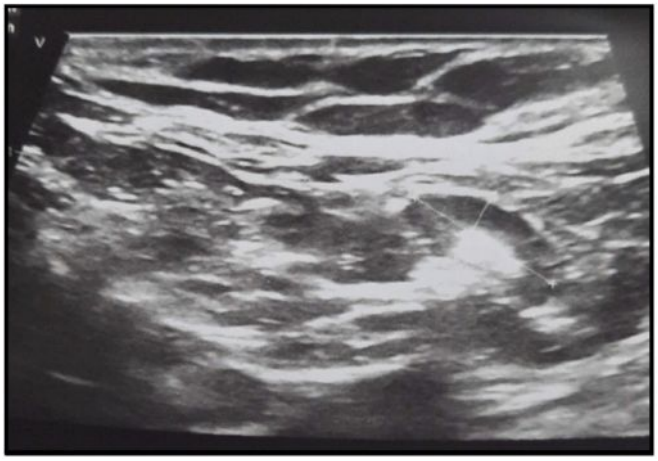

Fig 1a. Ultrasonography image showing an ill-defined hypoechoic area (dotted white line)

Fig 2a. Gross image of excised right axillary swelling showing grey yellow to brown areas

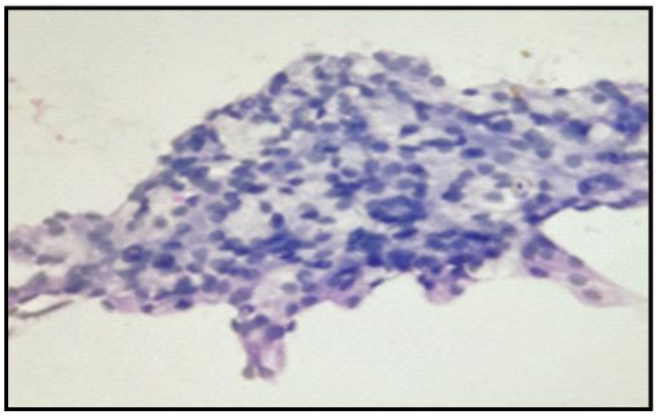

Fig 1b. Aspiration cytology showing benign ductal epithelial cell clusters

Fig 2b. Gross image of excised left axillary lump showing grey yellow to brown areas with a focal circumscribed myxoid area

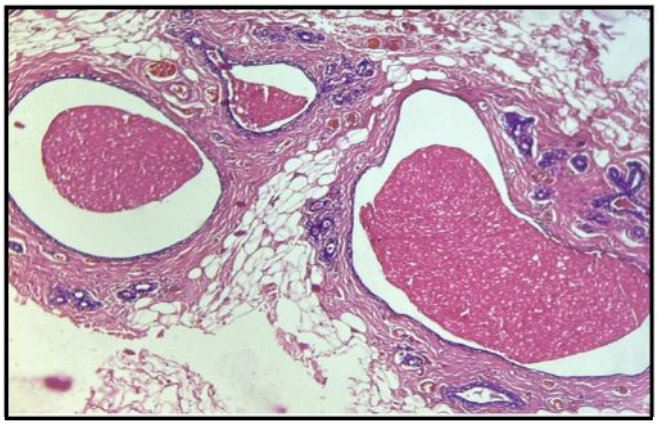

Fig 3a Microphotograph showing adipose tissue admixed with benign breast tissue showing dilated ducts. H&E x10

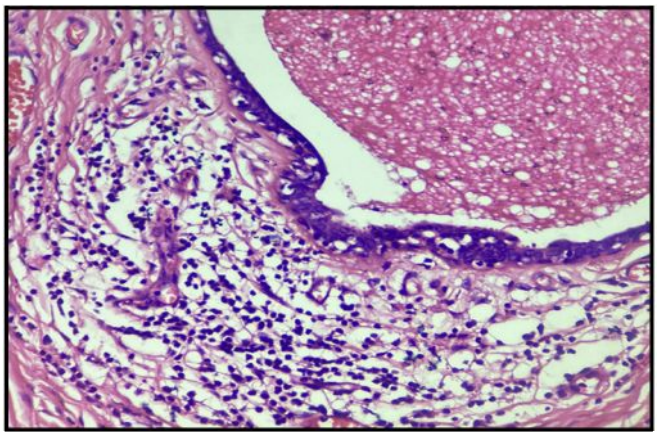

Fig 3b. Microphotograph showing dilated ducts with periductal lymphocytic infiltrate. H&E x 40

Discussion

Breast development starts around fifth week of gestational period from an ectodermal thickening called mammary ridge/ milk line extending bilaterally from axilla to groin. Failure of involution of this ridge at any point will result in ectopic or accessory breast tissue. [3,4,5] Unlike supernumerary breasts, ectopic breast tissue has no nipple and areola nor secretory system and does not communicate with overlying skin. Incidence of accessory breast in women ranges from 0.4% to 6% and 1-3% in men. [6,7] It is common in Asian population with higher incidence in Japanese (5%).[3] Around 60-70% of cases occur within the milk line, axilla being most favored site followed by infraclavicular, subscapular, epigastric regions and vulva. This tissue is prone for all cyclical, pregnancy related and lactational changes and can present as asymptomatic lump or with symptoms like pain and lactational secretions [6,8]. Accessory breast tissue can also harbor pathological lesions seen in normal breast like mastitis, fibroadenoma, fat necrosis, lactating adenoma, mammary hamartoma and duct hyperplasia.[5] Carcinoma (CA) can also occur with an incidence of 0.2% to 6%, most common being infiltrating ductal type. Rare reports of medullary breast cancer, Paget's disease, cystosarcoma phyllodes, papillary carcinoma, leiomyosarcoma, and invasive secretory carcinoma also exist.[6] Differential diagnosis for axillary lumps must also include lymphadenopathy, lipoma, hidradenitis suppurative and sebaceous cyst which are differentiated through their supportive clinical features. Fine needle aspiration cytology [FNAC] can give clue to the type of tissue constituting the lumps. [3,5]

Accessory breast tissue and duct ectasia are common entities but duct ectasia in an accessory breast is rare. Only few cases have been reported in literature**,** with no mention of exact incidence owing to its rarity. [7,9,10] Duct ectasia is also known as mastitis obliterans, stale milk mastitis, mastitis obliterans, varicocele tumor and periductal mastitis. Though common in pre- and post-menopausal group it can also affect young women, children and men.[9] Exact etiopathogenesis is unknown but smoking has been postulated as a risk factor, others being ductal obstruction, hyperprolactinemia, autoimmune disease, infection and trauma. [6,10] The underlying lactational hyperprolactinemic state in our case would have been one of the contributing factors. On mammography, ectatic ducts are seen as serpentine tubular structures containing inspissated secretions and inflammatory cellular debris. On ultrasonography, ectatic ducts appear as anechoic tubular structures having smooth walls. Inflammatory infiltrates appear as soft tissue nodules within ectatic ducts as seen in our case, ducts having no flow on color doppler.[7,10] This lesion develops in stages, beginning with ductal dilatation and distention with cellular debris and lipoid – containing material without accompanying inflammation. As disease progresses, duct dilatation extends peripherally. Microscopy at this stage reveals duct dilatation with inflammation. Periductal inflammation comprising of lymphocytes and plasma cells with amorphous debris and foamy histiocytes filling the ductal lumen.[8] Histopathological features in our case favored an early stage. In the final stage, duct irritation

by secretion leads to fibrous wall thickening with Surgical intervention is ideal for consistent or recurrent cases.

Conclusion

It is pertinent to send all excised axillary accessory breast tissues for histopathological examination as they can harbor pathological changes like duct ectasia. Surgical excision is curative as it also allays chances of malignancy sprouting from the ectopic mammary tissue.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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