



A Tale of Axillary Tail of Breast

Memenin Aksiller Ucunun Hikayesi

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ABSTRACT

This original article tells the tale of the axillary tail of the breast. Human breast's parenchymal extension into the axilla is known as the axillary tail of the breast. Normally, it remains confined as per the healthy individual's body habitus. But sometimes it may become prominent and thereby a cause of tension. A plethora of findings have been reported to occur in an axillary tail. From toxoplasma to tumors, the list is comprehensive. Hence, each individual with a prominent axillary tail has its own tale to tell as has been explained in this article. Pathologists as well as Radiologists should be well aware of the various normal and abnormal entities affecting it, so that the distressed individual seeking assistance is properly managed.

Key Words: Breast, Pathology, Axillary Tail, Mastopathy

ÖZET

Bu orjinal makale meme aksiller ucunun hikayesini anlatmaktadır. Koltuk altına ulaşan insan memesinin parenkimal uzantısı memenin aksiller ucu olarak bilinir. Normalde, sağlıklı insan vücudunun bir parçası olarak karşımıza çıkar ancak bazen önemli ve ayrıca tansiyon nedeni olabilmektedir. Bulguların çoğunun aksiller ucundan geldiği rapor edilmiştir. Toksoplazmadan tümörlere kadar oldukça kabarık bir liste bulunmaktadır. Bu yüzden; çıkık aksiller uçlu her bireyin kendine özgü hikayesi bulunmaktadır. Radyologların yanı sıra patoloğların aksiller ucu etkileyen farklı normal ve anormal durumlardan haberleri olmalı ki bu konuda destek arayan sıkıntılı bireylerin doğru yönlendirilmeleri yapılabilsin.

Anahtar Kelimeler: Meme, Patoloji Aksiller uç, Mastopati,

INTRODUCTION

The extension of the normal parenchyma of the breast into the axilla is known as the axillary tail of the breast. It is also known as the Tail of Spence (Spence's tail) after James Spence the renowned Scottish surgeon¹.

It is present in both males as well as females. The females have them far well-developed than

factors, so are the morphologic characters of the axillary tail. Usually it extends along the infero-lateral edge of the pectoralis major muscle^{2,3}.

Normal axillary tail is asymptomatic. But an individual may become symptomatic or concerned as soon as it becomes prominent or as soon as it hosts a pathology. Since it is an extension of breast tissue, all diseases that can affect breast, can also affect this tail. It is therefore essential that medical professionals are aware and alert about it.

males. As the breast size and shape are the outcome of dietary, genetic and environmental

DISCUSSION

An individual may present with an axillary swelling in following scenarios:

1. Lumpy feeling in Axillary Tail-

Many healthy females have this common complaint. Although there is no palpable discrete solid or cystic mass in their axilla, it is the inner feeling or the external appearance that brings them to seek medical opinion for the same.

As shown in Figure 1, a healthy female of 43 years of age came with the complaint of lumpy feeling in both axillae. Prominent soft tissue bulge was seen in both axillae [A and B]. High resolution ultrasound [HRUSG] with 7.5 MHz linear transducer showed normal breast parenchymal appearance below this axillary lump (C). It had normal vascularity. Fine needle aspiration cytology [FNAC] in this region yielded normal breast parenchymal microscopic appearance (D) as seen on low power field. The patient was counselled about the normalcy and discharged.

In some other patients when this normal axillary tail becomes prominent, the affected individuals describe them differently as "although not damaging not very uncomfortable and painful at certain times of the month and quite unsightly as a 'bulge' out of their armpits which looked like fat!" In such conditions, some active intervention may be needed. Pathologist's opinion on FNAC can solve the issue by giving proper diagnosis⁴.

Lactation has been described to occur from the axillary tail of breast⁵, and may be quite distressing.

Differentiation of accessory breast tissue in the axilla from the axillary tail of breast is also necessary and possible (6, 7). Although Accessory or Ectopic Axillary Breast Tissue is not common, it is a common in polymastia. The accessory axillary breast tissue usually becomes noticeable in peripubertal period puberty. The opinion about its origin is diverse. On one side it may truly be an ectopic tissue not contiguous with the breast. It may also be the prominent the axillary tail^{6,7}.

It is therefore important that the reporting pathologist reports whether the prominent soft tissue bulge in axilla is due to enlarged axillary tail or ectopic location of breast tissues of the milk ridge.

2. Palpable Mass in the Axillary Tail-

As the "axillary tail of Spence" extends into the axilla, any pathology that can present in breast; can manifest in axillary tail as well. The importance of this principle lies in the realization that a mass in axillary tail; although might not seem to be in the breast proper, can still be a breast mass.

Chronic infective conditions like Tuberculosis can occur in the axillary tail^{8,9}. HRUSG as well as x ray mammogram may demonstrate an abnormality but cannot confirm whether it is infective-inflammatory or neoplastic. A strong clinical suspicion of tuberculosis of axillary tail of breast, followed by FNAC along with ZN stained smear preparation and PCR are the essential prerequisites for early diagnosis. Figure 2 shows a case of tuberculosis. The skin (2A) had a cystic palpable lump in right axillary tail. HRUSG (2B) showed necrotic areas within, confirmed of harboring Acid Fast Bacilli (2C) in the collection that also demonstrated the appearance of granulomatous (2D) lesion on low power image.

Toxoplasmosis too can manifest as a palpable mass in the axillary tail of the breast^{10,11}. HRUSG and X-ray mammography might raise a suspicion of pathological process but usually are not conclusive. FNAC and core biopsy of the lesions can rule out a malignancy and display the underlying granulomatous lesion favoring toxoplasmosis. Serological workup for *Toxoplasma gondii* can confirm the diagnosis¹¹.

Benign processes like different types of Breast cysts and Fibroadenomas can present as palpable mass in the axilla. Diabetic mastopathy¹² and Antiretroviral therapy associated mastopathy(13) too can present as palpable axillary masses.

Malignant neoplasms too can involve the axillary tail^{14,15}. These malignancies may either be

primary or Secondaries. The axillary tail may be involved by primary squamous cell carcinoma, which may be frankly manifest or be occult and may present clinically as an isolated axillary lymph node mass. Figure 3 shows a case of intra-ductal carcinoma that arose in axillary tail. The skin (3A) had a firm palpable lump in right axillary tail. FNAC revealed the intra ductal carcinoma on low power (3B) as well as high power (3D) field. The mass was well appreciated on HRUSG (3C).

Apocrine cystadenomas is another interesting entity that can affect the axillary tail. In this condition, the apocrine glands undergo benign adenomatous cystic proliferations manifesting as palpable cystic lesions in the axilla. Diagnosis is made by the Pathologist by identifying the lipofuscin granules that are present inside the apocrine cells contained, which were and are characteristically diastase resistant and Periodic acid Schiff (PAS) positive¹⁶.

To complete the tale of the pathologies that can affect the axillary tail, rare entity known as Giant cell arteritis must also be kept in mind¹⁷. It can present as a new lump in axillary region which on x ray mammogram may show mixed density breast tissue that may eventually subside and stay as a string-like thickening in axillary tail. HRUSG may show thick walled arteries in the axillary tail. Erythrocyte sedimentation rate and C-reactive protein are significantly raised. Arterial biopsy is diagnostic.

An Approach to correct Diagnosis

In order to make the correct diagnosis of the pathology affecting axillary tail, proper history and clinical examination form the first step.

History of fever, tenderness and discharge from the swelling can indicate an infective etiology like Tuberculosis. Long standing nodular mass indicates neoplasm.

Next comes the role of imaging. HRUSG and x ray mammography form the first steps in identifying and localizing the pathology. Computerized Tomography, Magnetic Resonance

Imaging and Positron Emission Tomography may be needed for complete pre-operative evaluation.

It has to be kept in mind that in almost all these conditions, the final diagnosis rests with the Pathologist. Armed with FNAC and Biopsy along with various immuno-histo-chemical analyses, exact diagnosis can be made. Wherever local expert facilities are not available help of telepathology may be obtained for reaching the diagnosis¹⁸.

Management of tale of axillary tail of breast:

Management depends on the etiology.

Treatment of asymptomatic condition –

Patients may be uncomfortable about the appearance of their axilla. The axillary lump might be painful at certain times of the month. Medications to relieve pain and proper counselling are important in this condition. Elective surgery may be carried out for cosmetic purposes.

Treatment of symptomatic conditions –

Infective condition needs proper medications. Tuberculosis of breast needs anti-tubercular chemotherapy and surgery for draining breast abscesses, excising residual sinus tracts and even lumps in cases with poor response to anti-tuberculosis therapy^{19,20}.

For toxoplasmosis Spiramycin may be administered as it can even reduce the risk of foetal infection from an infected mother. Sulfadiazine-pyrimethamine combination is administered for individuals with impaired immunity^{10,11}.

Prednisolone is used in cases of Giant Cell Arteritis.

For benign distressing lumps and well as for local malignant lumps in axillary tail, excisional lumpectomy is the way out. This may be followed by appropriate chemotherapy if needed. It has to be remembered that complete removal of breast tissue in the axillary tail for prophylactic mastectomy is a difficult as the axillary tail if of vital importance post prophylactic mastectomy and breast reconstruction since it is the store house of remnant breast tissues²¹.

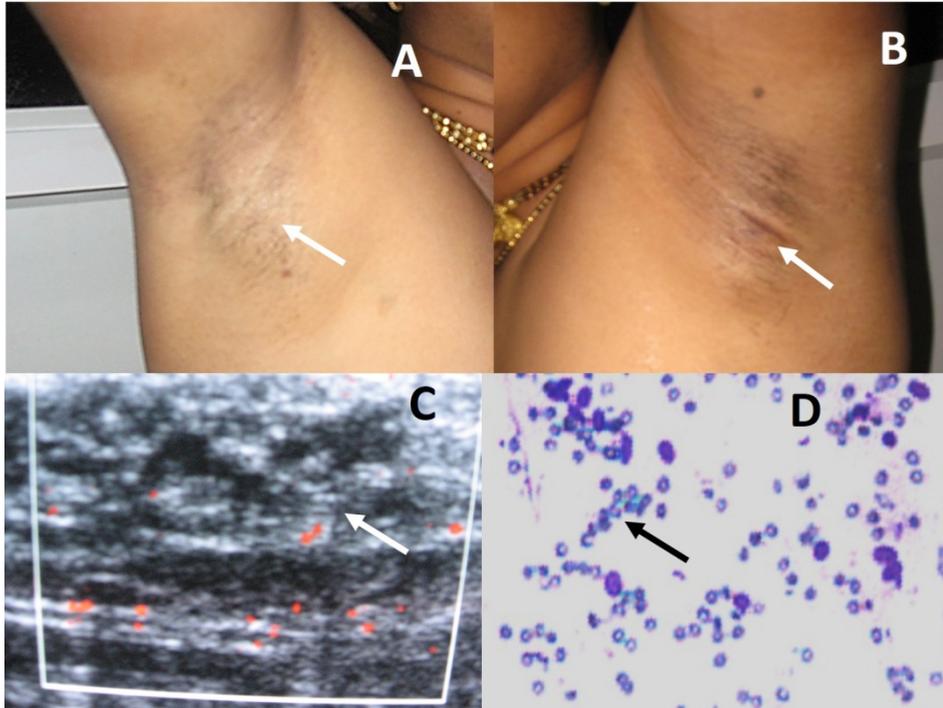


Figure1. Normal Axillary Tail.

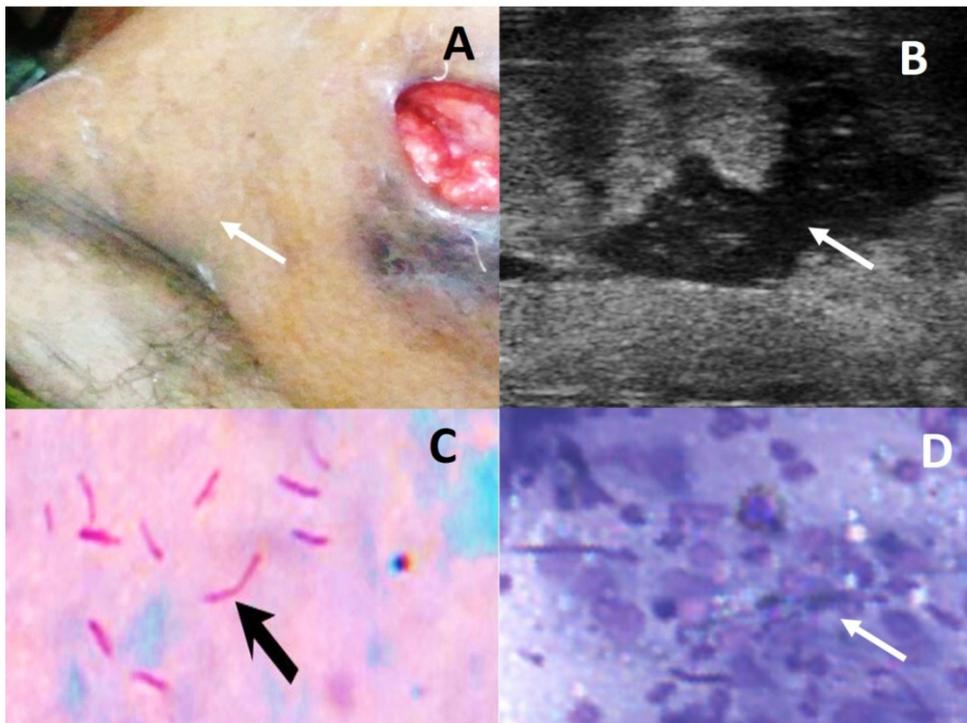


Figure 2. Axillary Tail TB

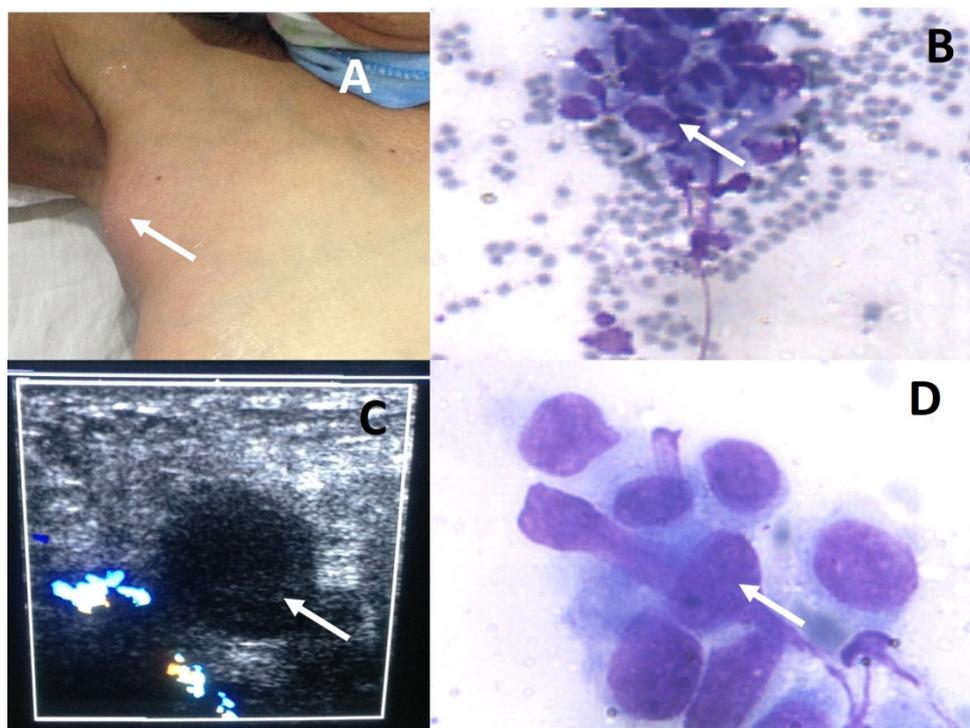


Figure 3. Axillary Tail IDC.

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