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Axillary breast: Surgical and Cosmetic challenge

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Abstract
Axillary breast is a type of accessory breast wherein there is additional breast tissue in the axillae in addition to the normal breast. The condition has both cosmetic and functional implications more so during menarche and pregnancy. The diagnostic and therapeutic approach needs to focus considerably on cosmetic outcome in addition to removing the pathology. The article describes the embryological basis, clinical features, diagnosis and therapeutic options for axillary breast.

Keywords: Axillary, Accessory, Breasts, Diagnosis, Treatment

Introduction
Axillary breasts also called accessory or supernumerary breasts are an uncommon congenital anomaly characterized by the presence of additional breast tissue in the axilla.[1] It may cause cosmetic issues, discomfort while wearing clothes and in rare instances can be a seat for malignant transformation as well. A brief review of the embryology, clinical features, diagnosis and treatment modalities are presented.

Embryology
Incomplete regression of the mammary ridge during embryogenesis leads to the development of accessory breasts. The mammary ridges or milk lines extend bilaterally from the axilla to the groins. Normally the ridges regress except for the pectoral region where normal breasts develop. Failure of regression anywhere along the mammary ridges or milk line leads to accessory breast formation. Axillary breast is a type of accessory breast wherein there is breast tissue in the axilla in addition to the normal breast. [2, 3, 4]

Incidence
The prevalence rate of axillary breast is 1-6% in the general population. It can affect both males and females though it is predominantly seen in females due to hormonal changes .[3]

Classification
Kajawa classification is applicable to accessory breasts. [2] It takes into consideration the composition of the accessory breast with respect to the quantum of breast tissue, presence of nipple or areola in various combinations. A simplified classification for axillary breast has been proposed by Bhave. [2, 3, 4] According to this classification axillary breast are classified as per their predominant location into three types, Para mammary, central and along the medial arm.

Clinical Features
The various clinical features of axillary breasts are
1. A palpable rubbery to soft axillary swelling.
2. Cyclical swelling and tenderness typical accompanying hormonal changes during menstruation, pregnant state and during lactation.
3. Few women may exhibit skin changes such as hyperpigmentation, dimpling and even peau d' orange. [5]
4. Severe discomfort and pain may be experienced during the use of sleeveless tops.

Diagnostic Evaluation
Clinical examination is diagnostic. However, it has to be supported by radiological tests.

- **Ultrasound:** USG helps in differentiating accessory breast tissues from other lesions like lymph nodes or lipomas. It is also helpful in determining the approximate percentage of breast stroma and fatty tissue. [6, 7]
- **Mammography:** This is useful in dilemmatous situations wherein malignancy needs to be ruled out. A combination of USG with mammography is best for accurate diagnosis. [8]
- **MRI:** This provides anatomical evaluation when there is a strong suspicion of malignancy. [2, 8]

Treatment

Various modalities of treatment have been proposed. The choice of treatment depends upon the merits of the case and experience of the surgeon. These include

a. Surgical excision
b. Liposuction
c. Combination of surgical excision and liposuction (termed as axilloplasty)
d. Non-surgical methods such as injection lipolysis and high intensity focal ultrasound.

Surgical excision needs to be planned with geometric accuracy in order to achieve the best cosmetic outcome. [4, 9, 10] Surgery depends upon a. the location, b. size and c. extent of accessory breast tissue. [10] Preoperative photographs are absolutely essential for geometric marking of the incision. The photographic frame of reference extends from the mid neck to the nipple level. [2, 3] The following are the various views

1. Spread wing view with arms at right angles both sides which enables exact visualization of both axillae.
2. Arms abducted above the head both sides which helps in studying the relationship with the pectoralis major muscle. (Figure 1)
3. Arms by side (both sides).

The salient features of surgical intervention are

a. Preoperative marking in abducted position (Figure 1)
b. Elliptical excision of the hairy apical skin in the direction of maximum laxity. (the incision should not cross the anterior axillary fold)
c. Raising of flaps to prevent tethering of the scar.
d. Meticulous dissection taking utmost care to avoid damage to nerves, axillary pad of fat and lymph nodes. (Figure 2)
e. A negative suction drain may be kept depending upon the extent of dissection.
f. Suturing in position of maximum abduction yields the best cosmetic outcome. (Figure 3)
g. Application of stretchable dressing.

Liposuction alone may not be a fruitful modality of treatment. The abducted position during the procedure brings the neurovascular structures to the floor rendering them vulnerable to injury. Hence liposuction alone may be a hazardous modality of treatment. [11]

Axilloplasty wherein the redundant skin is removed after the fat is suctioned out. The results are promising. But much depends upon the technical expertise of the surgeon. [2, 3]

Non-surgical modalities like injection lipolysis can cause venous thrombosis and late fibrosis of the axilla thereby rendering this modality least popular and to be avoided. [12]

Complications of treatment

A variety of complications can develop following surgery. [4, 9, 10] These include bleeding at the time of surgery. Meticulous dissection therefore is necessary. Postoperative shoulder stiffness and pain may follow. However good physiotherapy is therapeutic. Some amount of burning pain may develop due to neuropraxia of the medial cutaneous nerve of the arm and the intercostobrachial nerve. This is a self-remitting condition with symptomatic treatment by gabapentin. Adequate skin preparation is essential to avert the complication of surgical site infection in view of the axillary location. Seromas can be prevented by the judicious use of negative suction drains and firm stretchable dressings. Dog ears at the end of the incision usually disappear with time. Chasing the dog ear at the time of surgery is not advisable as it leads to lengthening of the skin incision. Hypertrophic scars and contractures may develop ins a select few cases. Complications of the scar could be prevented to a great extent by the use of scar reducing creams.

Figure 1: Bilateral axillary breasts

Fig 2: Excised axillary breasts

Fig 3: Final outcome of surgical excision

Conclusion

Axillary breast is challenging though a rare condition. Diagnosis is best confirmed by Sono mammography. Meticulous planning of the surgery taking into consideration the cosmetic results is pivotal for a good outcome.

Conflict of interest

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