Fibroadenoma of the ectopic breast of the axilla

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Abstract Polymastia is a term that is used to describe the presence of more than two breasts in human beings. It is synonymous with supernumerary or accessory breast tissue. Ectopic breast tissue (EBT) may occur any where along the primitive embryonic milk lines, which extend from the axilla to the groin, and may occur unilaterally or bilaterally. In the EBT any disease can develop that affects the normal breast, including fibroadenoma. Since publications describing this anomaly are rare, we decided to report a case of fibroadenoma in axillary breast tissue.

Keywords Fibroadenoma · Axilla · Ectopic breast tissue

Introduction

Anomalies associated with breast development are not uncommon. Axillary breast tissue is a common variant of EBT, with a reported incidence of 2–6% in women [1]. It is twice as common in female patients as in males [2]. Diagnosis of EBT is important because EBT shows similar pathologic changes that occur in naturally positioned breasts. Although controversial, an association between these anomalies and renal malformations has been described [3]. We present a rare case of a 17-year-old woman with a subcutaneous tumour in left axilla that was histologically identical to the fibroadenoma seen in the breasts.

Case report

A 17-year-old unmarried female patient presented with a mass in the left axilla of 3 years duration. The mass was initially small and gradually increased in size. The swelling did not show any change during the menses. She had her menarche and thelarche begin at 11 years of age. There was no family history of breast cancer or polymastia.

On local examination we found a ($3 \times 4 \times 2$ cm) mass in the left axilla. The mass was subcutaneous in position, firm, painless, freely mobile and completely isolated from the left breast. Clinical examination of the right breast revealed two small fibroadenomas ($1 \times 2 \times 1$ cm) in the upper inner quadrant. The left breast and both the nipples were normal. Examination of axillae and neck was normal. No similar alteration was found in other parts of the body.

Ultrasonography of the right breast revealed multiple hypoechoic space occupying lesion's (SOL's) suggestive of multiple fibroadenomas. The left breast was normal. Ultrasonography of the left axilla showed a clearly circumscribed, superficial, homogenous, solid mass,

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measuring 3 cm in diameter. Clinical and radiological examination of the urinary system showed no abnormality. Fine needle aspiration cytology (FNAC) examination of left axillary lump suggested an axillary tumour. The axillary lump was excised (Fig. 1). The histological picture was a fibroadenoma similar to the conventional type arising in normal breast tissue (Fig. 2).

Discussion

Between 1% and 5% of women and men present with supernumerary nipples (polythelia) and less often supernumerary breasts (polymastia) [4]. EBT is a congenital anomaly of the breast usually confined to the area of the embryonic milk line. The milk line developmentally arises in an ectodermic thickening between the upper limb and the lower limb buds during the 6th week of gestation [5].

Fig. 1 Excision of tumour (fibroadenoma) from axilla

Fig. 2 Histopathology of excised tumour (fibroadenoma) h-e stain $\times 40$

It gives rise to normal breast in the pectoral region and the rest of it will regress. Two hypothesis have been claimed on the embryogenesis of the EBT. One attributes the anomaly to the failure of regression and displacement of the milk line [6], while the second believes it develops from the modified apocrine sweat glands [7].

Few case of fibroadenoma in the axilla has been reported in literature. Coras et al. reported a case of axillary fibroadenoma in a 23-year-old woman, [1] while Aughsteen et al. reported a similar case in a 28-year-old woman [8]. Cases of EBT have been reported in the face, vulva and the perineum.

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, were it often mingles with normal skin appendage glands [9]. For the pathologist, it may be difficult to distinguish between tumours of skin appendage gland origin and mammary origin [10]. This may explain the cytological report in our case which suggested an axillary tumour.

The question arises as to why this is an example of fibroadenoma in the EBT rather than an extension of breast parenchyma into the axilla (axillary tail of Spence). This issue can be best explained by the observation that in our case the fibroadenoma was located in an anatomically superficial location (in the subcutaneous tissue) which is not characteristic of an axillary extension of the axillary tail of Spence.

Another importance significance of the EBT is their association with congenital anomalies in the urogenital system. Polythelia in particular has been associated with supernumerary kidneys, failure of renal formation and renal cell carcinomas which can be explained in part by the parallel embryologic development of mammary structure and the genitourinary system [3, 10].

To conclude, fibroadenoma should be kept in mind in the differential diagnosis of axillary swellings. Fibroadenoma in the EBT should be diagnosed with the same methods applied to normal breast tissue (mammography, ultrasonography, cytology and biopsy). When tumours or nodules are found along the mammary line, the presence of breast tissue should be considered during the investigation [3]. The patients should be evaluated for any associated urogenital anomaly.

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