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## Fibroadenoma of the Ectopic Breast of the Axilla-a Case Report

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**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. In the ectopic breast tissue any disease can develop that affects the normal breast, including fibroadenoma. We reported a case of fibroadenoma of the axilla in a 23-year-old woman. Differential diagnosis of an axillary mass should also include fibroadenoma in an ectopic breast tissue.**

### Introduction

“Polymastia” is a term that is used to describe the presence of more than two breasts with or without a nipple and areola in human beings. It is synonymous with supernumerary or accessory breast (EBT) tissue. Ectopic breast tissue occurs anywhere along the primitive embryonic milk lines, which extend from the axilla to the groin, and may occur unilaterally or bilaterally. Axillary breast tissue is a common variant of EBT, with a reported incidence of 2 to 6% in women [3]. It is twice as common in female patients as in males [2]. It can be seen during or before puberty, and is often noted during pregnancy [2]. Normally, ectopic breast tissue appears sporadically. However, it is suspected that it may also be a hereditary condition [3].

Diagnosis of EBT is important because ectopic breast tissue shows similar pathologic changes that occur in normally positioned breasts and can be a marker for urologic malformations or urogenital malignancies [5]. We present a case of a 23-year-old woman with a subcutaneous tumor in the axilla that was histologically identical to the fibroadenomas seen in the breast.

### A Case Description

A 23 year-old woman was admitted because of a 4 × 3 × 2.5 cm right axillary mass, which had first appeared 3 years earlier. The mass increased in size within the past year. The mass was painless, firm, freely mobile and completely isolated from the right breast. Both breasts and nipples were clinically normal, and there were no lymph nodes in the axillae and neck. Mammography of the breasts was normal. The general and radiological examination of the urinary system showed no associated abnormalities. The patient had no personal or family history of breast cancer. The preliminary cytological examination of the material obtained by needle aspiration biopsy from the mass revealed many clusters of cohesive epithelial cells with clusters of mesenchymal cells. A provisional diagnosis of fibroadenoma with no malignant changes was made. The entire surgically excised mass had a whitish-lobular cut surface. Samples from different levels of the mass were taken. The samples were processed for a routine histological examination and stained with hematoxylin and eosin. The histopathological examination of the sections taken from the sample showed ductules lined by cuboidal epithelial cells resting on the myoepithelial cells layer and surrounded with abundant mesenchymal loose fibro-collagenous tissue (Fig. 1). The fibroadenoma had a well-demarcated margin (Fig. 2). The histopathological picture was a fibroadenoma similar to the conventional type arising in normal breast tissue.

### Discussion

During the early weeks of embryonic development, the mammary milk lines, which represent two ectodermal

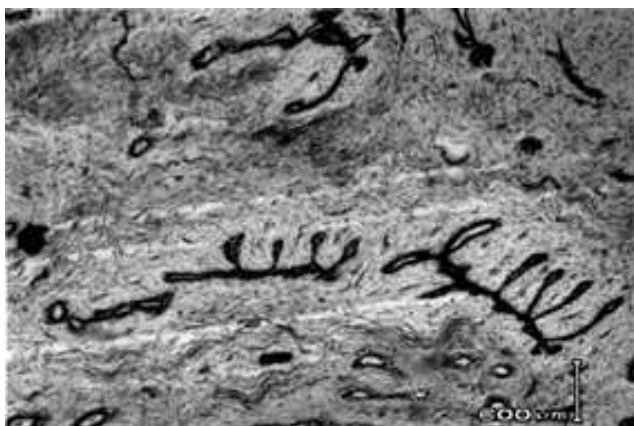


Fig. 1. The mass is composed of a proliferation of attenuated ducts in a loose, myxoid connective tissue (H&E,  $\times 10$ ).

two thickenings along the sides of the embryo, extend from the axillary region to the groin. In normal development, most of the embryologic mammary ridges resolve, except for two segments in the pectoral region, which later become the breast. A failure of any portion of the mammary ridge to involute may lead to ectopic breast tissue with (polythelia) or without (polymastia) a nipple/areolar complex [7]. Polythelia, in particular, has been associated with urinary anomalies, such as supernumerary kidneys, failure of renal formation, and renal carcinomas, which can be explained in part by the parallel embryologic development of mammary structures and the genitourinary system [4, 7]. Most instances of ectopic breast tissue occur along the milk line in the axilla [1]. Ectopic breast tissue has been reported in areas other than the milk line region, such as the perineum, face and vulva [1, 6]. Two hypotheses have been proposed on the embryogenesis of the supernumerary breast. One attributes the anomaly to the failure of regression and displacement of the milk line, while the other believes it develops from the modified apocrine sweat glands [1].

As compared to pectoral breast tissue, EBT demonstrates the same hormonal effects and is at risk of developing breast diseases. During menses or pregnancy, hormonal stimulation may cause enlargement and discomfort. EBT can undergo lactational changes during pregnancy, and in the presence of a nipple-areolar complex, it can give rise to lactational secretion [7].

The clinical differential diagnosis for a solitary axillary mass is very broad. In addition to ectopic breast tissue, it includes primary malignancies, benign cutaneous or subcutaneous tumors, and infectious and vascular lesions, as well as an axillary tail of Spence or a torn muscle belly. The diagnosis of ectopic breast tissue is strongly suggested by the history of cyclic changes during the menstrual period or by the initial appearance during preg-

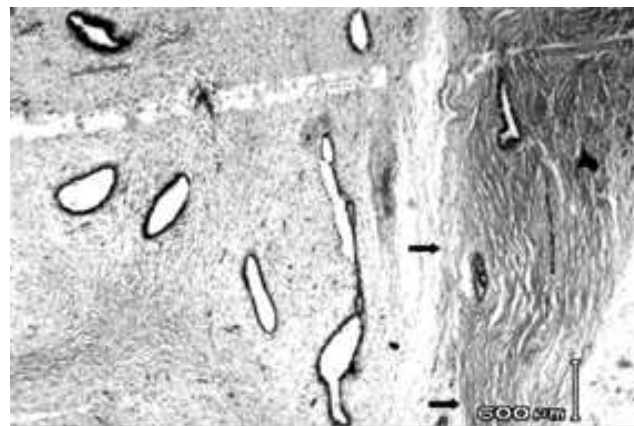


Fig. 2. The arrows point to the interface between the fibroadenoma and the normal tissue (H&E,  $\times 10$ ).

nancy. The diagnosis can be established in case of lactation during the puerperium [1, 3]. Fibroadenomas are relatively frequent, being the most common benign neoplasm of the breast, generally appearing as well-circumscribed, painless masses in young women [3]. Histologically, they constitute mixed neoplasms with epithelial and non-epithelial components. The epithelial proliferation usually shows ducts of variable shapes and sizes lined by two layers of epithelial and myoepithelial cells. Apocrine metaplasia, squamous metaplasia, or intraductal epithelial hyperplasia may be seen occasionally. The non-epithelial components show variable degrees of cellularity and collagenization [1].

Ectopic breast tissue is subject to hormonal response and may develop benign and malignant pathologic processes similar to those seen in normally located breast tissues, including fibrocystic disease, fibroadenoma, intraductal papilloma, lactating adenoma and carcinoma [2, 3, 7].

Ectopic breast is common in masses in the axilla and malignant and benign tumors may develop from this lesion. One of the benign lesions is also fibroadenoma, but its location in the axilla is rare. Fibroadenoma originating from an ectopic breast should be taken into consideration in the differential diagnosis of axillary masses.

## References

1. Aughsteeen AA, Almasad JK, Al-Muhtaseb MH: Fibroadenoma of the supernumerary breast of the axilla. *Saudi Med J* 2000, 21, 587–589.
2. Burdick AE, Thomas KA, Welsh E, Powell J, Elgart GW: Axillary polymastia. *J Am Acad Dermatol* 2003, 49, 1154–1156.
3. Coras B, Landthaler M, Hofstaedter F, Meisel C, Hohenleutner U: Fibroadenoma of the axilla. *Dermatol Surg* 2005, 31, 1152–1154.
4. Grossl NA: Supernumerary breast tissue: Historical perspectives and clinical features. *South Med J* 2000, 93, 29–32.

5. *Wise GJ, Roorda AK, Kalter R*: Male breast disease. *J Am Coll Surg* 2005, 200, 255–269.
6. *Koltuksuz U, Aydin E*: Supernumerary breast tissue. A case of pseudomamma on the face. *J Pediat Surg* 1997, 32, 1377–1378.
7. *Shin SJ, Sheikh FS, Allenby PA, Rosen PP*: Invasive secretory (juvenile) carcinoma arising in ectopic breast tissue of the axilla. *Arch Pathol Lab Med* 2001, 125, 1372–1375.

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