



Accessory Breast Tissue Presenting as an Anterior Abdominal Wall Mass

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Abstract

Accessory breast tissue is a developmental anomaly defined as persistence of breast tissue along the embryonic mammary line in the mid-thoracic region. Rarely, an abnormally located remnant of the line persists. A 29-year-old woman presented with a right ovarian cystic rupture into our hospital. She underwent laparoscopic right ovarian cystectomy. During operation, anterior abdominal wall mass, encapsulated with peritoneum, was found incidentally and resected. It was diagnosed fibroadenoma from ectopic mammary gland. We believe this is an unusual case of accessory breast tissue.

Keywords: Fibroadenoma; Anterior abdominal wall; Accessory breast tissue

Introduction

Accessory breast tissue is defined as ectopic breast tissue that persists from normal embryologic development if the structure fails to undergo its normal regression [1]. Accessory breast tissue most commonly becomes apparent at or after puberty, with the rapid growth observed during pregnancy [2]. Hormones, particularly estrogens, progesterone, prolactin, and human placental lactogen, affect accessory breast tissue in the same way in normal breast tissue. All benign breast disease also occurs in accessory breast tissue: Benign fibrocystic and proliferative; lactational changes; mastitis; benign breast tumors; subcutaneous lesions (epidermal inclusion cysts and sebaceous cysts); fatty lesions (fat necrosis, oil cysts, and lipomas) [1]. Kajava classified accessory breast into 8 types according to the presence of a nipple, areola, and glandular tissue [3]. The prevalence of ectopic breast tissue is more common in women, with the prevalence ranges from 0.4% to 6%. The most common region is axilla; the occurrence of ectopic breast tissue outside the axilla is extremely rare. Here we report a rare case with extra-axillary accessory breast tissue, which was on anterior abdominal wall with encapsulating peritoneum.

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Case Presentation

In 2016, a 29-year-old married woman visited our emergency room with a sudden severe lower abdominal pain. She had a surgical history of appendectomy due to acute appendicitis five years ago. She was a gravida 3, para 0 woman with a previous history of three times of abortion and with no history of underlying medical disease. Her vital sign was stable except for the tachycardia (110 beats per minute). On physical examination, direct and rebound tenderness at lower abdominal area were observed, and there were no abnormal findings at cervix, vagina, and urethra. There were no abnormal findings in blood test, urine test, electrocardiogram, and chest x-ray. Sonography revealed a right ovarian cystic mass measuring 4 cm × 4 cm and fluid collection in Cul-de-sac. The fluid assessed by diagnostic culdocentesis was hemoperitoneum. For the treatment, laparoscopic right ovarian cystectomy was performed under general anesthesia. During the operation, a 2 cm × 2 cm sized anterior abdominal wall mass, encapsulated with peritoneum, was found incidentally and resected. Postoperatively, the pathologic review confirmed the ovarian mass as a ruptured hemorrhagic corpus luteal cyst, and the abdominal wall mass as a fibroadenoma, which was occurred in mammary glands of ectopic breast tissue.

Discussion

The fetal development of the breast begins in the sixth week of gestation. Two ventral bands of thickened ectoderm, named the mammary ridges, extend from the axilla to the groin. The mammary ridges disappear except for a small portion of pectoral region, where mammary glands typically develop. Accessory breast tissue, also known as ectopic breast tissue, is caused by failed regression of primitive mammary tissue. It may occur anywhere along the original mammary ridges or milk

lines [2]. The most commonly involved site is in the axilla, followed by the inframammary area. However, other localizations, including the face, posterior neck, chest, middle back, buttock, vulvar, thighs, have also been reported [4-8]. In this case, there was an accessory breast tissue which located outside the mammary line, especially rare location, middle of the lower abdomen.

Accessory breast tissue may be inconspicuous until puberty or pregnancy, when hormones affect accessory breast tissue in the same way as normal breast tissue. These effects include change of size, pain during menstruation, and on rare occasion, galactoceles with milk secretion *via* contiguous skin pores [2]. Several malignant diseases in accessory breast tissue have been reported in the literature [3,9]. When a mass appears benign on imaging, imaging follow-up is recommended. If a suspicious mass is detected within accessory breast tissue, tissue sampling should be performed. If accompanied by pain or size increase, biopsy must be carried out to make accurate diagnosis, and then appropriate treatment should be performed accordingly [1].

Fibroadenomas are rare in accessory breast tissue, although relatively frequent in the normal breast. Less than 5% of these tumors increase in size, whereas approximately 25% of these tumors decrease. Carcinoma developing in a fibroadenoma is rarely reported in the world literature. High suspicion for malignancy is recommended in an older woman, particularly in one with associated risk factors like strong family history and/or BRCA-1, BRCA-2 mutation [10].

There are no standardized guidelines; however most recommend surgical removal only if an accessory breast tissue causes a problem. In case of a benign neoplasm, wide local excision is the main treatment strategy. In case of a malignant neoplasm, wide resection of the tumor with surrounding tissue, including the skin and lymph nodes, is the current standard of care. Postoperative treatments are the same as for cancer in normal breast tissue, including chemotherapy, radiation and endocrine therapy [9]. In this case, the incidental mass was revealed by pathology as a fibroadenoma from ectopic mammary gland. Therefore, we decided to perform regular follow-up, without further treatment, and so far, no evidence of recurrence or metastasis has been observed.

Accessory breast tissue is an important entity as it is at risk of developing any benign or malignant tumors that can develop in a normal breast. However, clinical diagnosis may be delayed due to unfamiliarity with the entity, especially for gynecologists. We report this rare case to emphasize that when the mass is observed in the mammary line, the accessory breast tissue should be considered for diagnosis.

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