

Benign Mastopathy of Ectopic Pubic Breasts: Case Report and Review of the Literature

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Abstract

Ectopic breast is a rare condition, affecting around 6% of the general population. It is characterized by a mass of soft tissue that can develop anywhere along the mammary crest or milk line, which extends from the armpit to the groin. Like the normal breast, benign and malignant processes can occur in the ectopic breast. We report a case of ectopic breast containing fibroadenoma from the obstetrics and gynecology department of the Military Hospital of Instruction Mohamed V in Rabat. A 37-year-old female patient presented to our department with bilateral inguino-pubic swellings. The patient underwent ultrasound and MRI, which revealed two subcutaneous lesion formations. Management consisted of surgical excision. On the basis of the histological findings, the diagnosis of ectopic breast containing fibroadenoma was made. Given that the majority of ectopic breast is located in the armpit, this case is unusual in its location.

Keywords: Ectopic Breast; Benign Mastopathy; Pubis; Surgery; Adenofibroma

Introduction

Benign mastopathies are benign lesions of the breast, mostly affecting women of childbearing age. They may manifest as nodules, or be the cause of mastodynia, without these signs being associated with a risk of cancer. When these lesions appear, they are more complex because their diagnosis and therapeutic management are less straightforward [1].

Ectopic breast: also known as accessory mammary tissue, is a rare congenital anomaly, affecting around 0.2% to 6% of the general population. It results from incomplete involution of the mammary crest, commonly known as the milk line, which extends from the armpit to the groin [2].

Although generally asymptomatic, the ectopic breast may present symptoms during pregnancy, breastfeeding or menstruation due to hormonal changes. Ectopic breasts are most often found in the axilla, but other locations have also been reported, including the vulva, perineum, thigh, chest, shoulder and facial region.

We report the case of a patient presenting with two bilateral masses in the pubic region, later found to be ectopic breasts containing a fibroadenoma, and review the literature.

Case Report

The patient was 37 years old and had no previous medical history: Primary infertility of male origin, morbid obesity with a BMI of 40, asthmatic on treatment. The patient underwent breast reduction for gigantomachia in our department 5 years ago. The patient has no family history of breast cancer. She was consulted in February 2022 for bilateral pubic swellings.

Symptoms began a few months earlier with the progressive appearance of two bilateral inguino-pubic swellings with discomfort, with no associated inflammatory signs.

Physical examination revealed a patient in good general condition, with two bilateral pubic swellings of soft consistency, painless, mobile and regular, each approximately 5 cm long, with no associated inflammatory signs, no palpable adenopathy, and no palpable nodules in the bilateral breasts.

The rest of the physical examination was unremarkable.

In view of this clinical picture, an additional work-up was requested, including ultrasound.

Ultrasound revealed two formations (Figure 1 and 2):

- The first in the upper part of the right labia majora, hypoechoic, roughly oval measuring 14/23/53 mm with no intra-lesional doppler signal or infiltration of surrounding fatty tissue.
- The 2nd roughly oval formation with slightly lobulated contours measuring 24/27/55 mm is visible in the upper part of the left labia majora. It contains some intra-lesional vascular structures on color doppler.

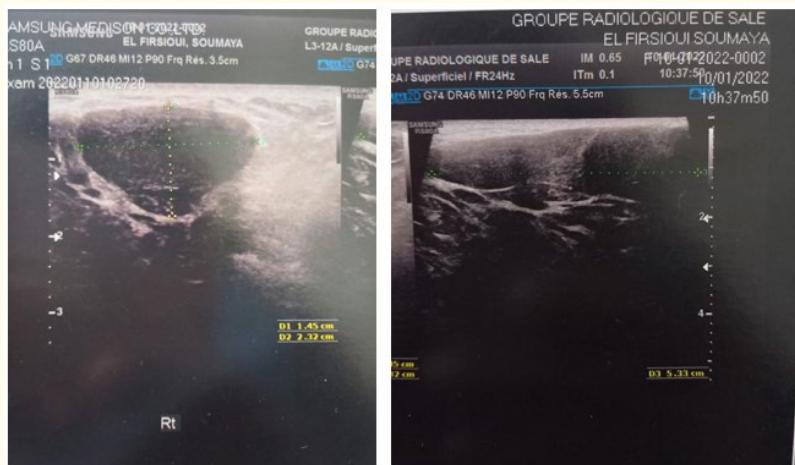


Figure 1: Right hypoechoic mass measuring 14/23/53 mm.

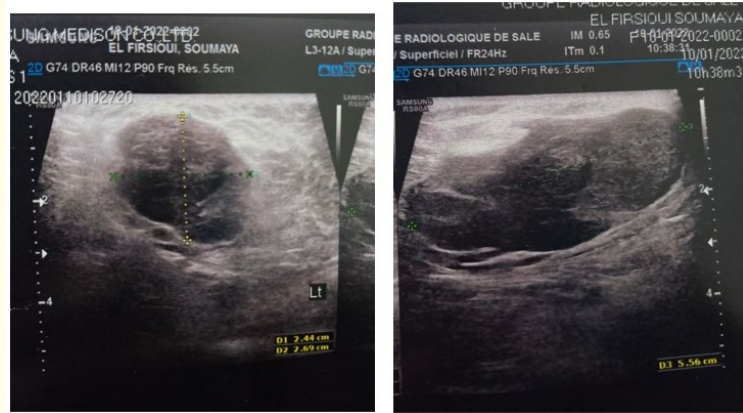


Figure 2: Left tumefaction measuring 24/27/55 mm with tissue echostructure.

When the diagnosis was in doubt, an MRI scan was ordered, which revealed two lesion formations in the prepubic subcutaneous area (Figure 3 and 4).

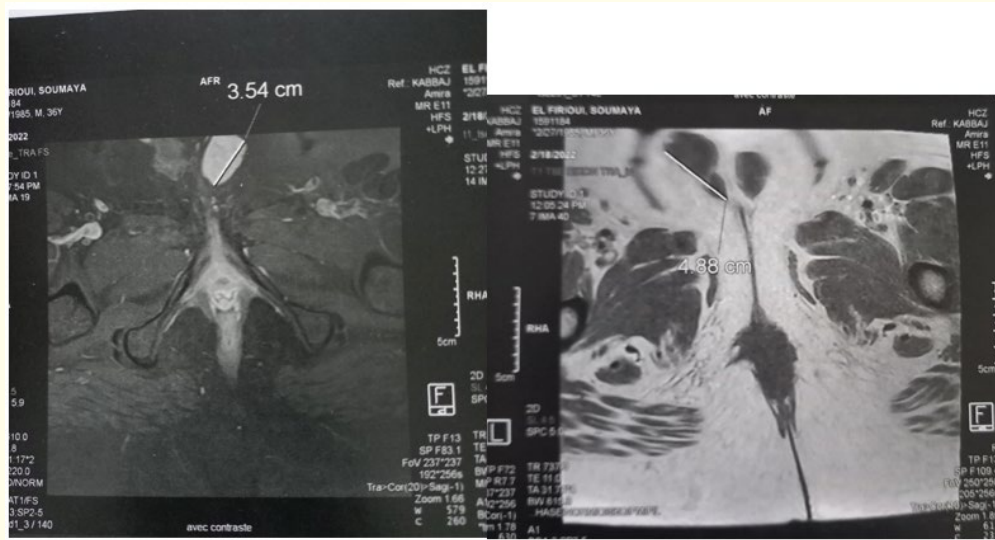


Figure 3: Pelvic MRI, the left formation measuring approximately 3.5 × 4.4 cm with homogeneously enhanced tissue signal.

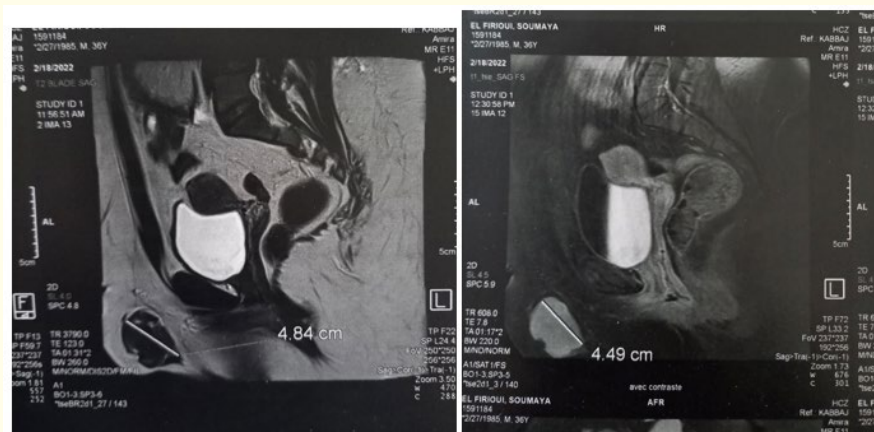


Figure 4: Pelvic MRI, right formation with bumpy borders and more heterogeneous, less enhanced after injection.

We opted to remove the two pubic masses. Under spinal anesthesia. A transverse prepubic incision of approximately six cm opposite the swellings revealed two hard, pearly-white dystrophic masses (Figure 5). A bilateral lumpectomy was performed, followed by skin closure using an intradermal overjet with an absorbable thread.

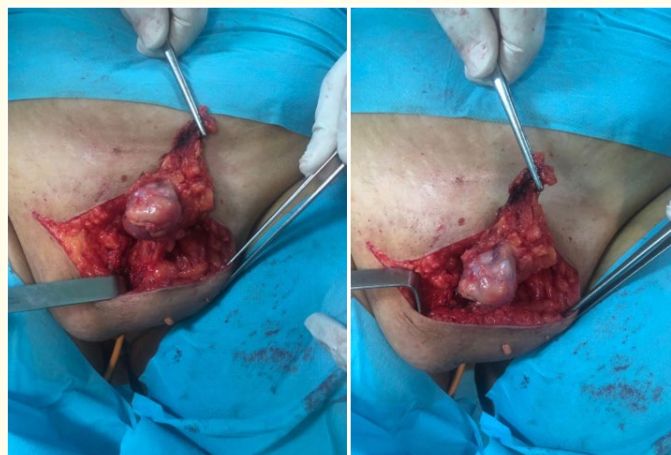


Figure 5: Pearly white pubic masses.

The masses were sent for histopathological examination (Figure 6) which showed: benign tumor proliferation, consisting of adenofibroma associated with non-proliferating fibrocystic mastopathy lesions developed on an ectopic breast with no histological sign of malignancy.

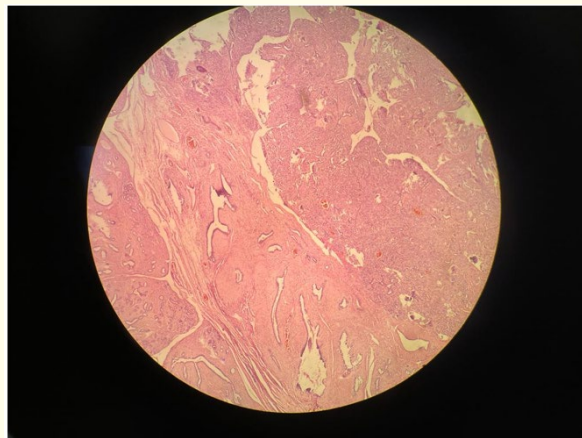


Figure 6: Microscopic image showing a benign tumor proliferation made up of stretched glands.

Discussion

The ectopic breast is defined as residual breast tissue that persists after normal embryonic development [2]. It is a congenital anomaly that can occur anywhere along the primitive embryonic milk lines, which extend from the armpit to the groin. It is a very rare condition, and its true prevalence is unknown. However, its incidence has been shown to depend on a number of factors, including gender, race, geographical area and heredity. Its overall prevalence is estimated at around 6% of the general population, and the incidence of ectopic breast associated with breast cancer is estimated at between 0.3% and 0.6% [1]. Yasuhiro Nihon., *et al.* reported an incidence of 0.2-0.6% of breast cancer in the Japanese population [3].

The ectopic breast develops when one of the mammary ridges located outside the pectoral region fails to disappear. Therefore, on the basis of this hypothesis, the ectopic breast can develop anywhere along the milk line that extends from the armpit to the groin. In support of this hypothesis, the majority of ectopic breasts occur in the milk line. However, atypical locations have been described in the literature, including the face, neck, shoulder, chest, back, thigh, vulva, perineum, foot and gluteal region. The presence of the ectopic breast in these atypical locations is partly explained by the second theory, which suggests that the ectopic breast develops from the mammary differentiation of modified apocrine sweat glands [2,4].

Clinically, the ectopic breast may be asymptomatic or may present as a palpable mass with or without monthly premenstrual changes, such as swelling or tenderness. Milk secretion and erythema may be seen during pregnancy and breastfeeding. Its size may increase during menstruation, pregnancy or breastfeeding. Imaging assessment may begin with a mammogram or ultrasound performed as part of screening or routine diagnosis. Breast MRI is sometimes performed in difficult cases. A definitive diagnosis may be made by fine needle aspiration or decisional biopsy; however, knowledge of the normal appearance of ectopic breast tissue in multiple modalities should hopefully rule out such unnecessary invasive procedures [5].

The treatment of choice for symptomatic ectopic breast is surgical removal, the aim of which is to relieve discomfort in the case of a large ectopic breast. The ectopic breast may also be excised for aesthetic reasons. On the other hand, if the lesion is malignant, treatment should be based on the usual standard procedures for treating breast cancer, i.e. surgery, chemotherapy, radiotherapy and hormone therapy [6,7].

At present, no specific guidelines on the treatment of benign mastopathy in ectopic pubic breasts are available. Fibroadenoma arising in the ectopic breast is the most frequent benign mastopathy described in the literature and is mainly located in the axillary region. A recent retrospective study of the treatment of fibroadenoma in axillary ectopic breast was published in 2021 by Lee and al is the first to address this issue. Thirty-nine patients with palpable fibroadenoma in the axillary ectopic breast were treated by complete excision. Concurrent excision of the fibroadenoma in the normal breast was performed. No patient had a recurrence with a mean follow-up of 48 months [8]. In all the locations included and depending on the type of mastopathy, surgical excision remains the best diagnostic approach. Our patient underwent bilateral lumpectomy of both masses.

Conclusion

For early diagnosis and management, ectopic breasts should be considered as a differential diagnosis when evaluating a patient presenting with a cutaneous and/or subcutaneous lesion along the milk line extending from the armpit to the groin. As we have described, like the normal breast, the ectopic breast is subject to the same physiological and pathological processes, including neoplasia.

Benign mastopathy in ectopic pubic breasts is a rare and complex condition and poses a dilemma in terms of diagnosis and therapeutic management. Ultrasound and MRI can be used for initial assessment, but histopathological evaluation is necessary for a definitive diagnosis. Surgery with excision remains the best approach to management.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

All authors contributed to the conduct of this work. All authors also declare that they have read and approved the final version of the manuscript.

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