

Case Report

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Symptoms of Ectopic Axillary Breast Tissue and Complications to Surgical Excision

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Abstract

Introduction: Ectopic breast tissue in the axilla is a rare abnormality and there is currently not a single procedure accepted as standard treatment. The aim of this study was to describe the association between symptoms of ectopic breast tissue and choice of treatment, and related complications.

Methods: A retrospective study of patients diagnosed with ectopic breast tissue at Rigshospitalet, Denmark, in 2010-2013 was performed. Data was collected from original patient files to describe symptoms, treatment, hospitalisation, and complications. Fischer's exact test was used to examine differences in symptoms between patients treated with surgery or conservatively.

Results: 85 patients were included in the study. The most common symptoms were a solid lump or swelling (67%). Of the 85 patients, 43 were treated conservatively (51%) and 42 with surgical excision (49%). Significantly more patients in the surgery group presented symptoms of cosmetic nuisance ($p=0.03$). More than half of the patients treated with surgical excision (57%) experienced complications, the most prevalent being seroma (24%) and paraesthesia (17%).

Conclusion: In our study, we found a high risk of complications after surgical excision of ectopic breast tissue in the axilla. Until further evidence exists, conservative treatment should be encouraged and surgical treatment should be balanced against the quality of life for the patient if conservative treatment is chosen.

Introduction

Ectopic breast tissue in the axilla is a rare abnormality and the exact incidence is unknown. It is a subgroup of accessory breast tissue with an incidence in women varying between 0.22-6.0 % [1-4]. The diagnosis is often based on incidental findings and the clinical manifestation can vary [5] with monthly changes correlated with the cyclic changes in sex hormones [6,7]. Still one-third of the women experience symptoms such as a constant palpable solid lump, cosmetic disfiguring, discomfort and pain [8], physical impairment in movement of the arm or secretion from the ectopic breast tissue during lactation [7,9]. These symptoms can result in hospital contact with a treatment demand.

In the literature, different treatment modalities have been described. The most common treatment of ectopic breast tissue is surgical excision [8,10], but liposuction or excision combined with liposuction and microdebrider have recently been described in larger Asian cohorts [11-14]. There is currently not a single procedure generally accepted as standard treatment.

Aim

The aim of this study was to describe the association between symptoms of ectopic breast tissue and choice of treatment, and related complications for patients treated at Rigshospitalet, Denmark.

Material and Methods

The study was performed as a retrospective observational study. All patients diagnosed with ectopic breast tissue at the Departments for Plastic Surgery, Breast Surgery and Burns at Rigshospitalet, Copenhagen, from January 2010 to December 2013 were identified by their diagnosis registered in the hospital database. The diagnosis was verified by reading the original patient files and pathology reports. The inclusion criteria were females with clinically confirmed ectopic breast tissue located in the axilla. The first contact to the department should take place in the defined period and patients with treatment before 2010, still in contact with the hospital due to planned follow-up, were excluded.

due to incomplete information on primary treatment. We excluded patients with cancer in the ectopic breast tissue or exclusively polythelia.

From the pathology database and original patients files we collected data on symptoms, age at first contact to the hospital regarding ectopic breast tissue or age at surgical treatment if this was chosen, number of pregnancies, type of treatment, and number of days of hospitalization due to surgical treatment. Information on smoking status, Body Mass Index, pre- or postmenopausal status and type of incision was sparse and inconsistent, and missing in a large proportion of patients. Accordingly, this information could not be used.

Only two types of treatment were identified: conservative treatment and surgical excision. Conservative treatment was defined as treatment without surgery, with focus on observation and reassurance of the patient. Differences in symptoms between patients treated with surgery and conservatively treated patients were examined by Fishers exact test and p-values were calculated at a 5% level of significance.

Data on complications after surgical treatment were collected. The complications were divided into nine groups: residual tissue, signs of infection described by the surgeon or where medical treatment was given, seroma, any bleeding, paraesthesia, post-operative pain, decreased limb mobility, axillary web syndrome, poor scar. The study was carried out with permission from the Danish Data Protection Agency J.nr. 2014-41-2944.

Results

In total 144 patients were identified in the hospital database. 59 did not meet the inclusion criteria. The remaining 85 patients were included. The mean age at first contact or at surgery was 34.1 year (range 15- 62). Eight of the women were nulliparous and 54 had been or were pregnant. Parity data was missing for

23 patients. The most common symptoms of ectopic breast tissue were swelling or a solid lump (67%). The distribution of symptoms is shown in Table A. Of the 85 patients with ectopic breast tissue, 43 (51%) patients were treated conservatively and 42 (49%) patients were treated with surgical excision. Significantly more patients in the surgery group presented symptoms of cosmetic or unspecified nuisance. Of the surgically treated patients, 27 were hospitalized for one day and 8 were hospitalized for 2 days. For 7 (17 %) patients the data were not available. The shortest follow-up period was 6 months and the longest was 4 years. More than half of the patients treated by surgical excision (57%) experienced complications and 17% experienced more than one complication. The most common complications were seroma and paraesthesia, seen in 24% and 14% of the operated patients respectively. The distribution of complications is shown in Table B.

Discussion

In this study, investigating the treatment of ectopic breast tissue in the axilla, we found that half of the patients were treated with surgical excision. Out of these, more than half of the patients experienced complications. Most patients with ectopic breast tissue request surgical correction due to aesthetical discomfort rather than clinical reasons [15]. Others seek relief of symptoms or are anxious about the potential malignant changes that may occur in the tissue [8]. In our study the most common symptoms leading to hospital contact were a swelling or a solid lump. However, patients with cosmetic nuisance were significantly more likely to received surgical treatment. A large group of patients who underwent surgical treatment had symptoms classified as “unspecified nuisances”.

Due to the retrospective nature of the study, a further description of these symptoms was not possible from the original patient files.

Symptoms	Conservative treatment No. (%)	Surgical excision No. (%)	p-value
Number of patients	43	42	-
No symptoms,	5 (13)	0 (0)	0.06
Lactation	0 (0)	2 (5)	0.24
Swelling / solid lump	32 (74)	25 (60)	0.16
Pain / soreness	13 (30)	14 (33)	0.81
Decreased limb mobility / practical nuisance	3 (7)	7 (17)	0.2
Cosmetic nuisance	2 (5)	9 (21)	0.03
Unspecified nuisances	7 (16)	15 (36)	0.05
Excess skin	2 (5)	5 (12)	0.27
Skin noduli resembling papillae	3 (7)	1 (2)	0.62
Patients with >1 symptom	16 (37)	24 (57)	0.08

Table A: Symptoms in 85 women with ectopic breast tissue in the axilla treated at the department of Plastic surgery, Breast surgery and Burns from January 2010 to December 2013.

Complications after surgery	No. (%)
Patients treated with surgery	42 (100)
No complications	18 (43)
Residual tissue	3 (7)
Signs of infection	3 (7)
Seroma	10 (24)
Bleeding	0 (0)
Paraesthesia	7 (17)
Pain	3 (7)
Decreased limb mobility	5 (12)
Axillary web syndrome	2 (5)
Poor scar	3 (7)
No data available	1 (2)
Patients with >1 complication	7 (17)

Table B: Complications due to surgical treatment of 42 women with ectopic breast tissue in the axilla treated at the departments of Plastic surgery, Breast surgery and Burns from January 2010 to December 2013.

In the literature, evidence on the treatment of ectopic breast tissue is scarce. Only few studies describe the complication rate when conservative treatment was not chosen, and complication rates vary. Down et al. [16] used surgical treatment on 28 patients where 12 (43%) experienced complications such as seroma (2 patients), residual tissue (2 patients), poor scar (5 patients), infection (1 patient) and nerve damage (2). Alghamdi et al. described in a letter to the editor surgical treatment on 66 patients with only 8 complications (12%) (3 wound infection and 5 mild pain) [10]. Lesavoy et al. treated 28 patients surgically and described no complications [8]. Fan combined liposuction and excision on 47 patients and described only 3 complications (2 with excessive skin and 1 with wrinkled skin) [11]. Jeremy et al. treated ectopic breast tissue on 12 patients with a microdebrider and only one experienced wrinkled skin [17]. A recent large study by Hwang et al included 967 patients treated by excision in combination with liposuction. 17% developed complications, the most common being seroma [12]. Compared to the previously published studies, this study has a high number of complications after surgical excision. This could be explained by our way of counting complications. The number of complications does not represent the number of patients who experienced complications but the actual number of complications. One complication may cause another e.g., infection may lead to poor scar. Still, more than half of our patients experienced at least one complication and nearly 1/5 of the patients experienced more than one complication. The nature of the follow-up also influences the complication rate: complications registered in this study

either became noticeable during hospitalization, or if the patient contacted the departments afterwards. When the hospitalization ended, further postoperative appointments were not arranged. Treatment of complications carried out at other hospitals or by the general practitioner, as well as complications not severe enough for hospital contact, have not been registered in this study. Hence, the number of complications might be higher than found in this study. On the contrary, follow-up visits years after surgery might show a lower complication rate if only long-term complication were considered. In addition, we did not distinguish between permanent and temporary complications and a grading in severity of complications may alter the conclusion.

Despite the retrospective nature of the study with some limitations in the registration of complications and follow-up we conclude that the risk of complications is high when surgical excision is chosen. We found a short hospital stay related to surgery and the surgical procedure are considered as minor surgery. Still, due to the high complication rate of this non-malignant abnormality primarily presenting with aesthetic symptoms, a surgical procedure should only be recommended when symptoms are severe. More prospective, randomised trials are needed to investigate the long-term consequences of the complications to surgery. Due to the low incidence of ectopic breast tissue recruitment for such trials will be difficult and multicentre- or international studies are needed. Until then, conservative treatment should be encouraged having in mind that the harm of surgical treatment with the potential complications should be balanced against the quality

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