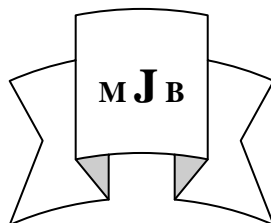


## Inflammatory Breast Masses

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### **Abstract**

From January 2, 2010 to December 31, 2011; 190 patients, attended Breast Clinic in Al-Sadder Teaching Hospital, 28 patients 14.8% of them have been proved to have inflammatory breast masses. The majority were lactating ladies (25 out of 28) 89.2%, most of them were inadequately treated; in 14 patients 56% that was because of patients' wrong thoughts that any surgical intervention to the breast may eventually cause cancer, while the in the rest was due to inadequate treatment with antibiotics only. Although the history of the lactating patients was so suggestive of their inflammatory nature, still some clinical findings were so similar to those associated with breast cancer; 57.1% had axillary lymph nodes enlargement, 64.2% had skin, and 7.1% had nipple changes. Mammography and ultrasonography couldn't decisively distinguish between the two. However, FNAC was of great assistance, and its results were so close to that of the open biopsy in all patients 100%. The remaining three patients; one male patient was proved to have TB mastitis while the other male had a non-specific mastitis due to a repetitive trauma. The only post-menopausal lady was proved to have chronic pyogenic mastitis. The conclusion is that an inadequate treatment of breast abscess leaves a mass that requires more laborious, and worrisome investigations. Therefore, the proper treatment is an essential step in the avoidance of this inconvenience, and this is the objective of this study.

**Keywords:** Breast Mass, Antibioma, Chronic Mastitis.

### **الخلاصة**

التهاب الثدي الحاد والخراج الناتج عنه شائع جدا عند الامهات المرضعات , خصوصا اثناء الاسابيع الاولى بعد الولادة .يعالج هذا الالتهاب بواسطة المضادات الحيوية و بزل الخراج في حال وجوده. لكن في حالات عدم كفاية علاج هذه الالتهابات و الخراج الناتج عنها لعدد من الاسباب , من بينها القناعة الخاطئة لدى عدد من المرضى بان أي مداخله جراحية ستؤدي الى التسبب بسرطان الثدي لاحقا, قد تكون النتيجة ظهور كتل في الثدي تشبه السرطان ,سريريا و الى حد بعيد .مما يترتب على ذلك جهد اضافي للتثبت من التشخيص الحقيقي للحالة اضافة الى القلق و التوتر الذي سوف يعاني منه المرضى وعوائلهم. وعليه سيكون هدف هذه الدر اسه هو تحديد عينه من هذه الحالات ومتابعتها كمحاولة لمنع او التقليل من حدوث ذلك.

### **Introduction**

The presenting complaint in about 70% of patients with breast cancer is as a lump, (usually painless). About 90% of these masses are discovered by the patients. Nevertheless, about 60% of lesions thought to be cancer are proved, on biopsy, to be benign. On the other hand, about 30% of clinically benign

lesions are found to be malignant [1]. Chronic intramammary abscess, which may follow an inadequate drainage or injudicious antibiotic treatment, is often very difficult condition to diagnose, especially when encapsulated with a thick wall of fibrous tissue, because these conditions cannot be distinguished from a

carcinoma without the histological evidence by a biopsy. [2] Since approximately 4% to 5% of breast cancer occur in women younger than 40 years, and 25% occur in women younger than 50 years [3], and a localized breast abscess may have all the clinical features of the breast cancer [4]. So, even in low breast cancer risk or in lactating ladies, where the acute mastitis is common , the presence of breast mass dose not put aside the possibility of its being a cancer.

Post-menopausal acute breast abscess carries the risk of being an inflammatory carcinoma. On the other hand, in chronic one, total excision of the mass is necessary for accurate histological diagnosis, instead of simple incision and drainage [5].

Although rare, chronic breast infections like TB, Actinomyosis and Granulomatous Mastitis should be considered as likely causes of breast masses as well. [6,7]

**Aims of Study**

To stress on the importance of adequate treatment of breast abscess. And retrieving pus during aspiration of a breast mass does not exclude the possibility of malignancy

**Materials and Methods**

This prospective study was conducted from January 2, 2010 to December 31, 2011. Among 190 patients attended Breast Clinic in Al-Sadder General

Teaching Hospital in Missan Province, 28 patients with proved infectious breast masses were included in this study. The patients were diagnosed, and followed up closely.

An especially designed questionnaire was used to collect initial clinical and laboratory data of the studied patients at diagnosis. The data of patients like, gender, family history of breast cancer, the clinical features like; tenderness of the mass, axillary lymph nodes enlargement, skin and nipple changes were also considered. Mammography, ultrasonography to both of breasts and abdomen, chest radiography (CXR), culture & sensitivity of aspirated pus and Fine Needle Aspiration Cytology (FNAC) of the breast mass, were all done and recorded.

**Results**

There were 190 patients attended the Breast Clinic in Al-Sadder Teaching Hospital in Missan because of having breast masses. Most of them 98.95% were females and only 2 patients 1.05% were males. Out of them 28 patients 14.74% were diagnosed as having infectious masses. They were as follows; 25 patients 98.29% premenopausal females, one patient 3.57% was postmenopausal female, and two patients 7.14% were male patients. None had a family or personal history of breast cancer or other risk factors, and all of the female patients were non-smokers.(Table 1)

**Table 1** Gender of patients with breast mass at presentation

Gender	Number	Percentage
<b>Females</b>	<b>26</b>	<b>92.86%</b>
<b>Premenopausal</b>	<b>25</b>	<b>89.29%</b>
<b>Postmenopausal</b>	<b>1</b>	<b>3.57%</b>
<b>Males</b>	<b>2</b>	<b>7.14%</b>
<b>Total</b>	<b>28</b>	<b>100%</b>

Regarding the clinical features at presentation of our studied patients; all patients (100%) had tender masses, followed by skin changes in the form of redness, thickening, and peau d'orange 64.25% whereas 16 patients

57.14% had palpable axillary lymph nodes and only three patients 10.71% had nipple changes mainly in the form of deviation and slight retraction (Table 2).

**Table 2** Clinical features of patients with breast mass at presentation

Clinical features	Number	Percentage
<b>Tender mass</b>	<b>28</b>	<b>100</b>
<b>Breast skin changes</b>	<b>18</b>	<b>64.25</b>
<b>Axillary lymphadenopathy</b>	<b>16</b>	<b>57.14</b>
<b>Nipple changes</b>	<b>3</b>	<b>10.71</b>

Mammography examination of our patients was inconclusive in lactating female patients because of their dense breast tissues, while the results in the two male patients 7.14%, and one postmenopausal patient 3.57% were closely similar to the findings of breast cancer. Ultrasonography examination revealed masses with either with fluid filled cavity or fluid filled loculations in 24 patients 85.71%, along with axillary lymph nodes enlargements in 16 patients 57.14%. FNAC was done to all patients, and the findings were; one male patient 3.57% had tuberculous

mastitis, one male patient 3.57% had a nonspecific mastitis, bacterial mastitis was reported in all 25 premenopausal female patients 89.29%, and the only postmenopausal female patient 3.57%, (Table 3).

The culture & sensitivity results of the samples from aspirated pus have reported no bacterial growth in the majority of patients 78.57%, whereas staphylococcus aureus growth was reported in two patients 7.14%, while the sole male patient 3.57% was reported to have Streptococcus pyogenes growth.

**Table 3** Results of Fine Needle Aspiration Cytology (FNAC) and pathologist's suggestions.

FNAC Results	Gender of patient	No. of patient (%)	Pathologist suggestion
Bacterial mastitis	<b>Female (lactating)</b>	<b>25 (89.29%)</b>	<b>To do open biopsy during surgical incision(needed)</b>
Bacterial mastitis	<b>Female (postmenopausal)</b>	<b>1 (3.57%)</b>	<b>To do open biopsy (needed)</b>
TB mastitis	<b>Male</b>	<b>1 (3.57%)</b>	<b>No suggestion</b>
Non specific mastitis	<b>Male</b>	<b>1 (3.57%)</b>	<b>No suggestion</b>
Total		<b>28 (100%)</b>	

FNAC: Fine Needle Aspiration Cytology, TB: Tuberculosis.

Three of patients with small (less than 5cm) masses were treated with excisional biopsy, while the remaining twenty two were treated with drainage with incisional Biopsy.

### **Discussion**

Mastitis is either acute or chronic; acute is more common than the chronic one. Acute mastitis is divided into lactating and non-lactating, the lactating is common in the first six weeks of breast feeding with highest incidence during the second and third week.[4,5] Staphococci and Streptococci are the main causative organisms , but rarely, brucellosis [6] and typhoid [7] may be the responsible infections. The best treatment of breast abscess is by antibiotics plus surgical incision and drainage, which has the theoretical advantage that it allows the loculi within the abscess cavity to be broken down and it allows dependent drainage, usually with suitable drains. [8]Alternatively, ultrasonography guided aspiration, irrigation, and instillation of antibiotics through an inserted pigtail catheter have a 95% success rate [9]. In our study, 25 lactating patients had developed breast masses because of improper treatment , mostly, due to the patients refusal of drainage or injudicious use of antibiotics rather than recurrent abscesses, because the recurrence of the breast abscess is defined as the need for repeated drainage within 6 months [10].

Smoking, obesity, and nipple piercing are associated with high risk of breast abscess and its recurrence [11]. Moreover, cigarette smoking is important in natural history of non-lactating breast abscesses and may predispose to anaerobic breast infection and the development of mammary fistulae [12]. All of our patients are not smokers.

Mammography was not of great help because of our patients' dense breasts. Ultrasonography had revealed cystic masses mostly with thick irregular wall in addition to axillary lymph nodes enlargement in 16 patients and these findings go with Teixidor Hinds and Kazan Elias [13]. Since biopsy of the breast abscess cavity wall is generally recommended at the time of incision and drainage to rule out underlying or coexisting breast cancer or a necrotic tumor [14]. 16 of our patient were treated by incision and drainage with incisional biopsy taken from the wall which confirmed the diagnosis of infectious mass.

Small masses (<5 cm) in three premenopausal patients, and the only post-menopausal one, were treated by excision of the masses with histopathology examination that revealed infectious masses [5].

Although breast tuberculosis is a rare disease with incidence ranging from 0.1% in the developing countries to 0.3-5% in the endemic rejoin [14], and it usually affects young, multiparous lactating women [16], one of our 2 male patients was proved to have tuberculous breast mass, and this is consistent with the conclusion of Fadaei M et al [17], and MN Akcay et al [18] that breast tuberculosis mostly presents as a lump, abscess or multiple discharging sinuses.

The remaining male patient had non-specific mastitis due to repetitive trauma.

### **Conclusions**

Inadequately treated acute breast abscess in a lactating female might transform into a mass that are clinically so similar to breast cancer. Consequently, they impose an additional action to prove or disprove their benign identity. Moreover, the post-menopausal breast abscess requires more vigilant care and action,

because of the possibility of inflammatory breast carcinoma or malignant changes within an originally chronic pyogenic breast abscess.

Likewise, chronic breast infections, such as TB, Actinomycosis, or Granulomatous Mastitis have to be considered as possible causes, despite their rarity.

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