ORIGINAL ARTICLE

Inflammatory Breast Disease-Analysis of Patients Being Treated at Surgery Department of Allama Iqbal Memorial Teaching Hospital

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ABSTRACT

Aim: To analyze the outcome of treatment in patients of breast abscess and mastitis admitted in surgical department of Allama Iqbal Memorial Teaching Hospital, Sialkot

Study Design: Prospective analytical.

Place & duration of study: Department of Surgery, Allama Iqbal Memorial Teaching Hospital affiliated with Khawaja Muhammad Safdar Medical College, Sialkot; from January 2016 to August 2017.

Methods: All patients who presented and admitted with a Diagnosis of Breast Abscess were included irrespective of clinical presentation, age, abscess size and co-morbidities. Patients who refused admission or treated as OPD patients were not included in the study. Available treatment options were discussed with the patient, and the patient's priority was given consideration for the final treatment.

Patients were classed in two groups- Group I – surgical; patients who were operated under G/A

Results: Total of 265 patients were enrolled while 72 patients did not complete 3 months follow up were dropped from the study. Age ranging from 16-43 (22+ 9) years. Lactating patients were 167 while non-lactating were 26. Known diabetics were 65. Group I – surgical patients underwent incision and drainage were 132 and Group II patients managed conservatively were 61. We had no mortality. In postoperative period, complications which came across were ischemia, skin excoriation, wound sepsis and postoperative septicemia.

Conclusions: Though there are certain advantages of freedom from general anesthesia and misery of repetitive dressings; the conservative treatment or minimal invasive ultrasound guided aspirations for small breast abscesses cause more morbidity and disfigurement and may end up in surgery. The definite treatment is surgical drainage in large as well as small abscesses in the breast which have significant less morbidity.

Keywords: Breast, Abscess, Ultrasonography, Fine needle aspiration, incision and drainage

INTRODUCTION

Breast abscess is a localized infection and accumulation of pus in the parenchyma of breast. Mostly breast abscess result as a complication of mastitis. Amongst breast pathologies; It is the most frequently encountered condition in surgical OPDs. It is more prevalent in women belonging to low socioeconomic condition and less common in western countries. Breast abscess can be puerperal (lactational) and nonpuerperal abscess (non-lactational)[1].

Puerperal abscess is of acute onset with incidence of 2.5% to 33% in lactating women. Mostly patients presents with pain that is severe accompanied by erythematous swelling in the post puerperal period. It occurs due to engorgment of lactiferous ducts causing milk stasis further leading to infection. Staphylococcus aureus is the causative organism in most of the cases

Non-puerperal abscess is not common and usually seen in postmenopausal women. It can occur due to duct ectasia, congenital abnormalities, nipple inversion, or underlying malignancy. Risk factors are smoking, diabetes and obesity. It occurs when the lactiferous ducts are blocked by keratotic debris leading to proliferation of organisms entrapped in ducts. Nonpuerperal abscess are mostly caused by streptococcus, staphylococcus and anaerobes[2].

In general, mastitis is treated with antibiotic therapy for 10-14 days, warm or cold compresses, and continued breast emptying via breastfeeding or breast pumping every 2 hours or when engorged. Antibiotic therapy with continued breast emptying has been shown to be superior to breast emptying alone for resolving symptoms, decreasing recurrence rate, and decreasing the risk of abscess development. The addition of appropriate antibiotic administration may relieve symptoms in 2-3 days, as compared with 4-7

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days for supportive care or 7-14 days if no action is taken. In breastfeeding mothers, use beta-lactamase stable penicillin. If a breast abscess is suspected in a nursing mother, the affected breast should not be used to nurse the baby owing to the risk of passing infection to the baby[3,4].

Historically, incision and drainage was considered the standard of care for abscesses. Although this method yields a lower reoccurrence rate, it is more invasive than needle aspiration and frequently results in scarring with structural damage and poor cosmetic outcomes. Fine-needle aspiration should be considered first-line therapy for abscesses smaller than 5 cm owing to its lower risks, followed by incision and drainage if recurrence occurs. Although success has been reported with oral anti-staphylococcal antibiotics and serial aspiration, surgical resection may be required for infected or obstructed lactiferous ducts and provides a lower rate of recurrence for non-puerperal abscess and mastitis[5,6].

For persistent lesions, treatment options may include ultrasound-guided needle aspiration, percutaneous drainage catheter and/or surgical drainage. Ultrasound-guided needle aspirations are more successful for abscesses smaller than 3 cm and for puerperal abscesses. Non-puerperal abscesses have a higher recurrence rate and often require multiple drainage attempts. Vacuum-assisted biopsy and percutaneous catheter drainage is sometimes considered for larger abscesses[7,8].

Breast abscess either puerperal or non-puerperal is managed conservatively and if they do not respond then surgically. Conservative management includes antibiotic after culture and sensitivity testing, analgesics, regular emptying of breast (especially in lacatation) and breast support. Surgical Management includes needle aspiration and percutaneous drainage. For small abscess drainage is done by needle aspiration. For large abscess treatment is incision and drainage under general anesthesia[9].

The traditional treatment of breast abscesses is by surgical incision, digital disruption of septa, evacuation of contents with occasional placement of surgical drains and administration of systemic antibiotics. This strategy often requires general anaesthesia, may leave unpleasant scars, is more expensive than aspiration, requires regular postoperative changes of dressing and interferes with lactation. In addition, 10–38% of abscesses recur and need additional surgical drainage. Needle aspiration of the pus in breast abscesses has been reported both with and without ultrasound guidance[10].

The majority of such patients belong to poor socioeconomic status and are generally managed at public sector hospitals and especially in teaching hospitals. No study has been conducted in our hospital to evaluate the quantum of this depressing pathology. We wanted to determine the outcome of treatment modalities in these patients managed at surgical department of Allama Iqbal Memorial teaching hospital.

PATIENTS AND METHODS

All patients who presented and admitted with a Diagnosis of Breast Abscess were included irrespective of age, presentation, size of abscess and co-morbid pathologies. Patients who refused admission or treated as OPD patients were not included in the study. The available treatment options were discussed with each patient, and preference of patient was considered before final decision regarding treatment was made.

Patients were classed in two groups- Group I – surgical; patients who were operated under general anesthesia. These included those patients with abscess size of more than 3 centimeter diameter and having fluctuation on clinical examination. Group II patients were treated either by ultrasound guided aspiration or no intervention and managed conservatively. These patients either had abscess size of less than 3 centimeter size or had signs of inflammation and no fluctuation was present. In the process of managing the breast abscess surgically, general anesthesia was administered and incision was given in such a way so that the abscess cavity could be opened completely. Pus was taken for culture and sensitivity and tissue sample was resected from the abscess wall, then extensive irrigation of abscess cavity was performed, necrotic tissue was removed, and wound was left open for free drainage. Post-operatively, the wound was dressed daily for healing by secondary intention. For the conservative treatment , antibiotics and hot fomentation were prescribed ; however, antibiotics were also prescribed to some of the patients who underwent surgical or minimally invasive treatment. Either as a sole therapy or as adjuvant therapy, antibiotics used were combination of a broad spectrum penicillin i.e., amoxicillin and beta-lactamase inhibitor, clavulanic acid. The effectiveness of ultrasound guided needle aspiration of breast abscess in conjunction with antibiotic therapy was assessed prospectively. We defined success as, resolution of the breast abscess without requiring operative intervention. Failure was defined as no resolution after fine-needle aspiration had been performed.

Generally, breast abscesses more than 3 cm in diameter were treated by surgical incision and

drainage. The surgeries were done by the experienced surgeons not below the rank of senior registrars. Varied complications were looked for in the follow up period. The patients without 3 months follow up were excluded from the study. The variables were entered in SPSS v 22 and statistics calculated and analyzed.

RESULTS

One hundred and sixty seven patients were lactating, 42 of whom were less than 12 weeks postpartum. The size of the abscesses ranged from 2 to 18 cm (median, 5 cm). General demographic data is shown in Table I. Details of complications group wise are shown in table II

Table I: General information (n=193)

Age	16- 43 (22+9) years
Lactating patients	167
Non lactating	26
Diabetes Mellitus	65
Prior handling of abscess by quacks	56
Pus for C/S	161
Biopsy of the abscess wall	142
Group I- surgical	132
Group II- conservative/minimal invasive	19+ 42 (9- ultrasound guided aspiration; 42 no intervention)

Table II: Morbidity

	Group I- surgical 132(100%)	**Group II- conservative/minimal invasive- 61(100%)**
Deformity of breast (scarring & contracture)	14(10.60%)	22(36.06%)
Hypertrophic scar	11(8.33 %)	-
Persistent discharge	13 (9.84%)	-
Reoperation	16(12.12%)	43.6(%)% REASPIRATION
Carcinoma	5(3.87%)	0%
Seroma formation and hematoma	9(11.88%)	1.8% +1.8%
Organized abscess	1 (0.75%)	8%(%) recurrence
Ulceration/ spontaneous rupture	-	1.8% ulceration 9.4% spontaneous discharge without intervention
Surgical drainage after conservative management	-	13% incision and drainage

DISCUSSION

In our study, we encountered 17% people with deformity of breast having hypertrophic scar and scarring causing contractures in Group 1and 11% patients of group II had deformity of breast. The same problem of disfigurement has been mentioned to be 10% in the study by Fahrni M et al[11].

In Group I of our study, 10% women after incision and drainage had pus discharge persisting in the follow up period for about 6 weeks while the same findings of 10% persistent discharge has been shown in the study by Fahrni M et al[11] .

In our study 11% women in group I required another procedure. A retrospective study was conducted on 53 females having breast abscess by Hara RJO et al[12]. Aspiration of 22 abscesses was performed out of which 3 required subsequent incision and drainage. Primary incision and drainage was done in 8 patients out of which 1 required second drainage.

A research was conducted by Afridi SP et al[13] on aspiration of breast abscess and it was observed that after 1 aspiration 43% women required second aspiration and in our study 43.6% patients in group II required second aspiration.

In our study 5% patient in Group II were diagnosed as a case of cancer. In a study conducted by Hara RJO et al[12] 1 out of 18 patients were diagnosed as a case of inflammatory cancer.

A research was conducted on diagnosis treatment and outcome of breast abscess by Fahrni M et al[11.] In 1 out of 56 patients a seroma was formed. A hematoma was formed in another patient at the site of placement of catheter for drainage . In our study 9% patients developed hematoma and seroma in group I and 2.16% patients developed this complication in group II.

A research was conducted Hara RJO et al[12] and in out of 53 patients abscess discharged spontaneously before intervention in five patients. In our study 9.4% of the patients discharged spontaneously.

In another research Fahrni M et al[11]in 1/56 patient the abscess ulcerated through the skin surface 1 day after US-guided FNA was performed. In our study 1.8% patients have ulcerations in Group II.

In our study 13% of the patients of group II required surgical management after conservative treatment. In another study by Schwartz RJ et al[14] 6 patients out of 30 required incision and drainage after conservative management.

In our study, we encountered deformity of breast more in group II due to organized abscesses and those who required surgical drainage due to failure of conservative treatment was in the study by the incidence of breast deformity.

No mortalities were encountered in our study, which were attributed to early presentations, effective antibiotic therapy and above all, timely intervention

Early complications were found to be strongly related to the age, where as late complications did not correlate with age due to poor immunity and co-morbid conditions The study shows that malnutrition

especially anemia, multi-parity and poor hygiene is significantly associated with primary breast abscess and its recurrence.

CONCLUSIONS

Though there are certain advantages of freedom from anesthesia and misery of repetitive dressings; the conservative treatment or minimal invasive ultrasound guided aspirations for small breast abscesses cause more morbidity and disfigurement and may lead to surgery. The definite treatment is surgical drainage in large as well as small abscesses in the breast.

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