

OUTCOME OF PERCUTANEOUS DRAINAGE OF BREAST ABSCESS UNDER LOCAL ANESTHESIA

Yousaf Jan, Muhammad Shah, Shaukat Hussain, Waqas, Ahmad Din

ABSTRACT

Objective: To aspirate breast abscess through a wide bore intravenous cannula and determine its efficacy as an alternative to surgical incision and drainage in terms of the numbers of recurrences and number of aspirations.

Material and Methods: This case series study was conducted in surgical ward Hayatabad Medical Complex Peshawar from March 2009 to March 2011. Female patients with breast abscesses above age 12 on clinical examination confirmed on ultrasound were subjected to aspiration under local anesthesia after written informed consent. All patients were followed weekly for 6 weeks and assessed by history, clinical examination and ultrasound for the complete resolution of the lesion.

Results: A total of 118 female patients with breast abscess underwent aspirations under local anesthesia. Mean age of the patients were 30.14 ± 1.58 and minimum age was 18 and maximum 44 years. Eighty four (71.1%) of them were lactating. Complete resolution was seen in 74 (62.7%) patients by single aspiration, second aspiration was required in 44 (37.2%) cases and third aspiration in 3 (2.54%) patients only. Recurrence after second aspiration occurred in 18 (15.25%) patients of them 15 (12.71%) patients needed surgical incision and drainage.

Conclusion: Percutaneous large bore needle aspiration of breast abscess with local anesthesia without ultrasound guidance is a simple and convenient alternative to surgical incision and drainage in uncomplicated abscess.

Key words: Percutaneous aspiration, breast abscess, incision and drainage.

INTRODUCTION

Breast abscess is a localized collection of pus in the breast, most commonly seen in lactating women¹. The incidence of breast abscess is 10.2%². Breast abscesses are common and rarely harbor an underlying malignancy and if drainage is done, then biopsy of the abscess cavity is essential³.

Nipple piercing by a child during feeding is an important cause of breast abscess⁴. It can be secondary to complication of mastitis, and about 10% of women who breast feed have mastitis⁵, and a recent study reported the incidence to be as high as 33%⁶. During lactation the most common organism responsible is *Staphylococcus aureus*⁷, including strains of MRSA, particularly in hospital acquired infection⁵. Others organisms responsible include streptococci and *Staphylococcus epidermidis*. Common bacteria's responsible for non lactating breast abscess include enterococci and anaerobic such as *Bacteroides* and anaerobic streptococci⁸.

Traditionally breast abscess required incision and drainage with or without ultrasound guidance⁹. Percutaneous aspiration of breast abscess is a simple

alternative to incision drainage, which requires daily dressing of the wound, difficulty in breast feeding and prolonged healing time with ugly scar¹⁰.

Non surgical method should be the first line treatment option¹¹. Ultrasound guided repeated aspiration of breast abscess is an established modality as an alternative to incision drainage in breast abscess, without skin ulceration and necrosis¹². Aspiration of breast abscess without ultrasound guidance is also reported effective⁹. Incision and drainage is indicated in complicated breast abscess, with skin involvement like ulceration, necrosis, ruptured and recurrent breast abscess¹³.

Purpose of this study was to determine the efficacy of percutaneous needle aspiration of breast abscesses without ultrasound guidance under local anesthesia as an alternative to surgical incision and drainage.

MATERIAL AND METHODS

This case series study was conducted at the Department of General Surgery, Hayatabad Medical Complex Peshawar, Pakistan, from March 2009 to March 2011 on 118 consecutive females above 12 years of age. Patients with breast abscess without ulceration and necrosis, irrespective of the volume and size diagnosed clinically and confirmed on ultrasound breast were selected for this study. Breast abscess presenting with skin changes like ulceration, necrosis, gangrene, discharging and recurrent breast abscess

Department of Surgery HMC Peshawar

Address for Correspondence:

Dr. Yousaf Jan

Senior Registrar Surgical B ward Hayatabad Medical Complex Peshawar.

Email: dr.yousaf.shinwari@gmail.com

Cell: 03339279312

and tuberculosis were excluded from the study.

Patients were diagnosed on the basis of history, clinical examination and confirmed by ultrasonography. The procedure was performed on a day-care basis. After written informed consent the area that was soft, tender with positive fluctuation was marked and breast was cleaned with pyodine solution and local anesthetic Xylocaine was instilled. Percutaneous aspiration was done for abscess using 14 and 16 gauge cannula. This procedure was repeated till the cavity was empty. Patients were initially kept on empirical antibiotics and later on antibiotic changed according to the culture and sensitivity and continued for 10 to 14 days. Analgesic were given to the patients as a supportive measure where indicated. Lactating mothers were advised manual expression of milk or emptying by breast pump. This procedure was repeated again in patients presented with recurrence after a period of one or two weeks. Those who did not respond on re-aspiration with continuous re accumulation of pus, increase of size of abscess or discharging sinus underwent incision drainage and incisional biopsy of the breast tissue to exclude malignancy. All patients were followed for a period of 6 weeks clinically for size of lump, local tenderness and temperature. Ultrasound breast was performed in all patients at 4th and 6th weeks to confirm the complete resolution of abscess.

RESULTS

One hundred and eighteen patients underwent percutaneous aspiration of breast abscesses under local anesthesia. Mean age of the patients were 30.14+1.58 and minimum age was 18 and maximum 44 years. Right breast was involved in 68 (57.62%) cases and left breast in 50 (42.38%) cases.

Breast abscess in 74 (62.7%) patients was resolved on single aspiration, second aspiration was required in 44 (37.2%) where it resolved in 26 (22.0%) patients (Table 1). Recurrence was noticed in 18 (15.2%) patients after second aspiration, out of which only 3 (2.54%) patient was managed by third aspiration, while 15 (12.71%) patients were managed by incision-drainage and incisional biopsy because of the painful lump, same size of the abscess and fever (Table 1). Maximum amount of pus aspirated was 260 cc. Analgesic and antibiotic were given in all patients as a supportive measure. None of the patients with incisional biopsy were found to be malignant on histopathology.

DISCUSSION

Out of one hundred and eighteen patients who underwent percutaneous aspirations, ninety two (77.9%) were of age less than 40 years. In his studies Jalali¹⁴ mentioned that 77% of the patients with breast abscess were less than 40 years old as also shown in our study. Afridi¹⁵ also showed breast abscess occurrence in young patients.

Table 1: Number of Aspiration and Incision Drainage

VARIABLE	NUMBER	PERCENTAGE
First aspiration	118	100
Resolved	74	62.7
Recurrence	44	37.2
Second aspiration	44	37.2
Resolved	26	22.0
Recurrence	18	15.2
Third aspiration	3	2.54
Incision / Drainage	15	12.7

Lactation is a risk factor for the development of breast abscess¹⁶. Breast abscess is associated more with lactation⁹, as also shown in our study. In their studies Jalali¹⁴ and Afridi¹⁵ showed that breast abscess was more common in non lactating group of patients. In our study right breast was involved in 68 (57.62%) cases, as also shown by Jalali¹⁴ and Afridi¹⁵ in their studies. Radiology has an important role in the diagnosis of breast abscess in addition to the clinical diagnosis¹⁷. Ultrasound is the best and simple modality to diagnose the breast abscess¹⁸. Similarly in our series all patients were diagnosed initially clinically confirmed by ultrasonography.

Breast abscess needs an immediate diagnosis and treatment in order to prevent further complications¹⁹. Traditionally once the abscess form including breast abscess, the ideal treatment is surgical incision and drainage. Nowadays the surgical incision and drainage is no longer recommended first line treatment for breast abscess as used previously¹⁰. Non surgical management of breast abscess is an established first line treatment nowadays²⁰. Non-operative treatment of breast abscess with aspiration and antibiotics has been reported with high success rates²¹.

Percutaneous aspiration of uncomplicated breast abscess is simple, safe, effective and better alternative to incision and drainage done as an outpatient procedure without anesthesia¹³. In our own study we achieved success rate of 87.3% of percutaneous aspiration of breast abscess without ultrasound guidance under local anesthesia. In their studies, a similar success rate of 81%¹⁴, 87.2%¹⁵, 82%⁹ and 86%²² have been achieved with percutaneous aspiration of breast abscess as compare to 87.3% in our study. In our study about 62.7% breast abscesses completely resolved with single percutaneous aspiration, as compared to 56.3%¹⁵ and 50%¹⁴ in other studies. About 24.6% patients needed further aspirations for complete resolution in our study. The similar result of 30.9%¹⁵ and 31.8%¹⁴ have been shown in other studies, comparable to our own study. Those who failed to respond to repeated aspirations underwent surgical incision and drainage. In our study

about 12.8% patients needed surgical incision and drainage, as compared to 18.2%¹⁴ and 12.7%¹⁵ in other studies.

Amoxicillin-clavulanate empirically was prescribed initially without culture and sensitivity after percutaneous aspiration. Later the antibiotics were changed according to the culture and sensitivity report. Use of flucloxacillin with or without metronidazole (or amoxicillin-clavulanate as a single preparation) is also used as an initial empirical therapy²³.

CONCLUSION

Percutaneous large bore needle aspiration of breast abscess with local anesthesia without ultrasound guidance is a simple and convenient method with cosmetically excellent results for uncomplicated abscess. It is cheaper and should be considered an alternative to surgical incision and drainage and saves the patients from surgery and general anesthesia and its complications.

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