

Compare the Outcome of Percutaneous Aspiration with Incisional Drainage for Management of Breast Abscess

SAMINA KARIM¹, FARRUKH SAMI², AHMAD SHAH³, MUHAMMAD HANIF⁴, ABDUL RASHEED ZAI⁵

^{1,3}Assistant Professors, Department of Surgery Unit-1, Sandeman Provincial Hospital, Quetta

²Senior Registrar, Surgical Unit-1, Central Park Medical College & Teaching Hospital, Lahore

⁴Associate Professor, ⁵Assistant Professor, Department of Surgery, Indus Medical College Tando Muhammad Khan

Correspondence to: Dr. Ahmad Shah E-mail: ahmadqta@yahoo.com Cell: 0315-8800848

ABSTRACT

Objective: To compare the outcome of percutaneous aspiration with incision drainage for management of breast abscess.

Study Design: Comparative study

Place and Duration of Study: Department of Surgery Unit-1, Sandeman Provincial Hospital Quetta from 1st October 2020 to 31st March 2021.

Methodology: One hundred and ten women age aged between 18-65 years of age were enrolled. Patients details demographics age, weight, height and body mass index were recorded after taking informed written consent. Women had breast abscess were included. Patients were equally divided into two groups, I and II. Group I had 55 patients and received percutaneous aspiration while in group II had 55 patients underwent for incision drainage.

Results: Mean age of the patients in group I was 30.11±8.56 years with mean BMI 27.9±18.77kg/m² while mean age in group II was 29.17±9.44 years with mean BMI 28.9±55.27kg/m². Mean weight of patients in group I was 72.19±17.44 kg and in group II mean weight was 74.35±19.78 kg. Mean height in group I was 154.12±9.55 cm and in group II was 156.08±8.71 cm. Restoration of breast feeding among group I was 47 (85.45%) and in group II 32 (58.2%) patients restored breast feeding. Satisfaction among patients in group I was higher than that of 45 (81.82%) as compared to group II, 31 (56.4%).

Conclusion: Percutaneous aspiration in breast abscess was successful and affective as compared to incision drainage with less complications and high satisfaction rate among the women.

Keywords: Breast abscess, percutaneous aspiration, Incision drainage

INTRODUCTION

Most breast abscesses are a result of lactational mastitis, which is a common cause of breast infection. From 0.4 to 11% of lactating mothers suffer from a breast abscess.¹ Obese people and smokers are more likely to develop breast abscesses than the overall population.² This entails incision and drainage of pus, as well as anti-staphylococcal drugs, but it is associated with a lengthy healing time, frequent dressings, difficulty breastfeeding and the likelihood of milk fistula, as well as a poor cosmetic outcome.³ Repetitive needle aspirations and vacuum drainage have been shown to be effective in treating breast abscesses.

With or without the use of ultrasound guidance, breast abscesses can be treated through repeated needle aspiration. Ultrasound has been proven to be beneficial in the identification of breast abscesses, in directing needle placement during aspiration, and in visualizing multiple abscess loculations, making it useful in needle aspiration of breast abscesses.⁴⁻⁶ As a result of its successful use, this technique is less likely to reoccur and has less cost.^{7,8}

For breast abscesses in Uganda, incision and drainage are still the most popular methods of treating them. Breast abscess treatment with ultrasonography guided needle aspiration versus surgical incision and drainage has not been studied. In many cases, women are prohibited from breastfeeding for the rest of their lives, and depending on the illness, only a small number of women are able to breastfeed after the therapy is complete. These are the surgical scars that need to be treated with cosmetic surgery or other methods.⁹ An infected area's fluid leak may also release some blood. When it comes to advanced

therapeutic approaches like needle aspiration, there is less or blood loss and the patient is immediately relieved of pain. It has a low cure rate and a significant probability of wound granulation while treating breast abscesses via incision drainage. The medicine affects the milk ducts in the same way that it affects the pH of milk. Several studies have shown that this may be the reason why women are prohibited from breastfeeding their children indefinitely.¹⁰

In addition, some patients require post-drainage for a variety of reasons, such as the formation of granules or fluid-filled scars, inadequate dressing or irregular dressing. The patient's pain and financial burden rise as a result of these symptoms. When a patient has to be hospitalized for a few extra days, or receives a series of medications or infusions, etc., the recovery time is lengthened and the financial load is increased.¹¹ A substantial risk of disease recurrence is in both incisional drainage and open procedure is associated with this treatment method, whether or not the disease is complicated. Studies have shown that this treatment technique has unsatisfactory results and a higher likelihood of reversibility. Breast abscesses, which have a cure rate of about 87 percent and a low recurrence rate, are a good candidate for the advanced treatment. The majority of moms are allowed to feed their infants, but others are not.¹² As a result of this study, a technique with superior results in terms of continuation of breast feeding might be recommended to patients.

MATERIALS AND METHODS

This comparative study was conducted at Department of Surgery, Sandamen Provincial Teaching Hospital, Qutta

from 1st October 2020 to 31st March 2021 and comprised of 110 patients. Patient's baseline details were recorded after taking written consent. Patients with other medical illness and those did not give written consent were excluded. Patients were aged between 18-65 years of age. Patients details demographics age, weight, height and body mass index were recorded after taking informed written consent. Women had breast abscess were included. Patients were equally divided into two groups, I and II. Group I had 55 patients and received percutaneous aspiration while in group II 55 patients were underwent for incision drainage. Outcomes among both groups were compared in terms of early restoration of breast feeding. Complete data was analyzed by SPSS 24.

RESULTS

Mean age of the patients in group I was 30.11±8.56 years with mean BMI 27.9±18.77kg/m² while mean age in group II was 29.17±9.44 years with mean BMI 28.9±55.27kg/m². Mean weight of patients in group I was 72.19±17.44 kg and in group II mean weight was 74.35±19.78 kg. Mean height in group I was 154.12±9.55 cm and in group II was 156.08±8.71 cm (Table 1).

We found that early restoration of breast feeding among group I was 47 (85.45%) and in group II, 32 (58.2%) patients restored breast feeding. Statistically the significant (P<0.05) difference was found (Table 2).

Satisfaction among patients in group I was higher than that of 45 (81.82%) as compared to group II, 31 (56.4%). There were significant (P<0.05) difference was found in patients satisfaction (Table 3).

Table 1: Baseline details demographics of enrolled cases

Variable	Group I	Group II
Mean age (years)	30.11±8.56	29.17±9.44
Mean BMI (kg/m ²)	27.9±18.77	28.9±55.27
Mean weight (kg)	72.19±17.44	74.35±19.78
Mean height (cm)	154.12±9.55	156.08±8.71

P>0.05 (Not significant)

Table 2: Comparison of outcomes among both groups

Restoration of breast feeding	Group I	Group II
Yes	47 (85.45%)	32 (58.2%)
No	8 (14.55%)	23 (41.8%)
P value	P<0.05	

Table 3: Comparison of satisfaction of patients among both groups

Satisfaction	Group I	Group II
Yes	45 (81.82%)	31 (56.4%)
No	10 (18.18%)	24 (43.6%)
P value	<0.05	

DISCUSSION

Most breast abscesses are a result of lactational mastitis, which is a common cause of breast infection. Abscess development occurs in around 3% of cases of lactational mastitis.¹² Abscesses in the breast are one of the most common causes of morbidity among women. Due to improvements in maternal cleanliness, nutrition, and standard of living, breast abscess is less common in affluent countries; yet, it remains a substantial problem for nursing women in developing countries.¹³

In the present study, mean age of the patients in group I was 30.11±8.56 years with mean BMI 27.9±18.77kg/m² while mean age in group II was 29.17±9.44 years with mean BMI 28.9±55.27kg/m². These findings were comparable to the previous studies.¹⁴ Group I had 55 patients and received percutaneous aspiration while in group II 55 patients were underwent for incision drainage. Mean weight of patients in group I was 72.19±17.44 kg and in group II mean weight was 74.35±19.78 kg. Mean height in group I was 154.12±9.55 cm and in group II was 156.08±8.71 cm. From conservative to surgical, breast abscesses are treated.¹⁵ Breast abscess is traditionally treated by incision and drainage under general anaesthesia, which can lead to delayed healing time, regular dressing, and trouble breast feeding, as well as cosmetic effects that aren't to everyone's liking.¹⁶ In our study early restoration of breast feeding among group I was 47 (85.45%) and in group II 32 (58.2%) patients restored breast feeding.¹⁴ Most nursing moms continued breastfeeding satisfactorily during the therapy reported by Christensen et al¹⁷, whereas 66.2 percent of lactating patients reported by Chandika et al.¹⁸ In a study done by Garg and coworkers¹⁹, the success rate was 84%. There was an 83.3 percent success rate reported by Elagili et al.²⁰

A mother should be encouraged to feed on the unaffected side after an abscess has been medically removed, in order to minimize further difficulties. Manual expression or a breast pump should be used to empty the diseased breast. Even²¹ in 2010, some hospitals still perform incisions under general anaesthesia with drainage tube placement. A painful wound on the breast (the breast is a highly innervated organ), the necessity for regular bandages, the inability to breastfeed, and the potential of cutting a milk duct leading to a "milk fistula"²² are all side consequences of "incision and drainage." In the present study, satisfaction among patients in group I was higher than that of 45 (81.82%) as compared to group II 31 (56.4%). When it comes to abscesses, percutaneous needle aspiration of breast abscess has been determined to be a superior therapeutic choice. This procedure is also known for its excellent cosmetic result and low cost.

Only big abscesses or those that refill rapidly after aspiration are suggested for suction drain implantation.²³ Sharma²⁴ reported that ultrasonography facilities are available in most parts of India, and that its use in primary health institutions in distant areas might reduce the risk of recurrence and persistent abscess.

CONCLUSION

Abscesses in the breast are one of the most common causes of morbidity among women. The percutaneous aspiration in breast abscess was successful and affective as compared to incision drainage with less complications and high satisfaction rate among the women.

REFERENCES

- Dener C, Inan A. Breast abscesses in lactating women. *World J Surg* 2003;27(2):130-33.
- Bharat A, Gao F, Aft RL. Predictors of primary breast abscesses and recurrence. *World J Surg* 2009;33(12):2582-86.

3. Berens PD. Prenatal, intrapartum, and postpartum support of the lactating mother. *Pediatr Clin North Am* 2001;48(2):365-75.
4. Rassmussen NR, Bilchet-Toft M. Primary periareolar abscess in the Non-lactating breast risk of recurrence. *AMJ Surg* 1987;153:571-3.
5. Schwarz RJ, Shrestha R. Needle aspiration of breast abscesses. *AMJ Surg* 2001;182:117-9.
6. O'Hara RJ, Dexter SP, Fox JN. Conservative management of infective mastitis and breast abscesses after ultrasonographic assessment. *Br J Surg* 1996;83:1413-4.
7. Hayes R, Michell M, Nunnerley HB. Acute inflammation of the breast: the role of breast Ultrasound in diagnosis and management. *Clin Radiol* 1991;44:253-6.
8. Srauss et al. Sonographically guided percutaneous needle aspiration of breast abscesses-a minimal invasive alternative to surgical incision. *Ultraschall Med* 2003;24(6):393-8.
9. Eryilmaz R, Sahin M, HakanTekelioglu M, Daldal E. Management of lactational breast abscesses. *Breast* 2005;14:375-9.
10. Javed MU, Aleem S, Asif SJ, Iqbal J. Breast Abscess. *Professional Med J* 2017;24(01):89-94.
11. Dayal P, Lal M. A comparative study of outcomes in management of breast abscess by ultrasound guided needle aspiration against incision and drainage. *Int J Med Biomed Studies* 2019;3(4).22-5.
12. Amir LH, Academy of Breastfeeding Medicine Protocol Committee. ABM clinical protocol# 4: Mastitis, revised March 2014. *Breastfeed Med* 2014; 9(5):239-43.
13. Al-Marzooq TJ, Al-Timimy QA, Mehsen RT. Ultrasound guided aspiration versus drainage under general anesthesia in breast abscesses. *Iraqi J Med Sci* 2015; 13(3):235-40.
14. Hussain N, Khan I, Ahmed T, Parveen S, Malik M, Khan MI. Comparison of the restoration of breast feeding after percutaneous aspiration vs incision and drainage for management of breast abscess. *J LiaquatUni Med Health Sci* 2018;17(01):47-51.
15. Javed MU, Aleem S, Asif SJ, Iqbal J. Breast abscess; comparison of recurrence rate between incision drainage and multiple needle aspiration. *Professional Med J* 2017; 24(1):89-94.
16. Lam E, Chan T, Wiseman SM. Breast abscess: evidence based management recommendations. *Expert RevAnti Infect Ther* 2014;12(7):753-62.
17. Chandika AB, Gakwaya AM, Kiguli-Malwade E, Chalya PL. Ultrasound guided needle aspiration versus surgical drainage in the management of breast abscesses: a Ugandan experience. *BMC Res Notes* 2012; 5(1):12.
18. Christensen AF, Al-Suliman N, Nielsen KR, Vejborg I, Severinsen N, Christensen H, et al. Ultrasound-guided drainage of breast abscesses: results in 151 patients. *Br J Radiol* 2005; 78(927): 186-8.
19. Garg P, Rathee SK, Lal A. ultrasonically guided percutaneous drainage of breast abscess. *J Indian Med Assoc* 1997; 95(11):584-5
20. Elagili F, Adbullah N, Fong L, Pei T. Aspiration of breast abscess under ultrasound guidance: outcome obtained and factors affecting success. *Asian J Surg* 2007;30(1):40-4.
21. Marchant DJ. Inflammation of the breast. *Obstet Gynecol Clin North Am* 2002;29(1):89-102.
22. Kataria K, Srivastava A, Dhar A. Management of lactational mastitis and breast abscesses: review of current knowledge and practice. *Indian J Surg* 2013;75(6):430-35.
23. Tewari M, Shukla HS. Effective method of drainage of puerperal breast abscess by percutaneous placement of suction drain. *Indian J Surg* 2006;68(6):330-33.
24. Sharma R. Drainage of puerperal breast abscess by percutaneous placement of suction drain should not be popularized as a novel surgical technique outside carefully controlled trials. *Indian J Surg*2007;69(1):33.