

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

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ABSTRACT

Objective: The aim of this study is to compare the outcome of percutaneous aspiration with incision drainage for management of breast abscess.

Study Design: Comparative Study

Place and Duration: The study was conducted at Surgery departments of Lady Reading hospital, Peshawar during the period of six months from August 2020 to January 2021.

Methods: Total 110 women were presented in this study. Patients were aged between 20-45 years. Patients' detailed demographics including 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, pain score by using VAS and time of healing. Complete data was analyzed by SPSS 24.0 version.

Results: Mean age of the patients in group I was 30.11 ± 8.56 years with mean BMI 26.9 ± 3.77 kg/m² while mean age in group II was 29.17 ± 9.44 years with mean BMI 26.08 ± 3.27 kg/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: We concluded in this study that 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. 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 antistaphylococcal 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 no 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 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.

As a result of this study, a technique with superior results in terms of continuation of breast feeding might be recommended to patients.

MATERIAL AND METHODS

This comparative study was conducted at Surgery departments of Lady Reading hospital, Peshawar during the period of six months from August 2020 to January 2021 and the study comprised of 110 patients. Patients’ baseline details were recorded after taking written consent.

Patients were aged between 20-45 years. Patients’ detailed demographics including age, weight, and height and body mass index were recorded after taking informed written consent. Women with an abscess size of equal to or less than 3cm and without having co-morbid like diabetes mellitus, chronic liver disease and chronic renal failure. Patients having previous history of breast surgery or diagnosed as breast carcinoma, inflammatory breast cancer, gangrenous and necrotic abscess were excluded from the study. 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 underwent incision drainage. Once intervention is done, all the patients were observed for the outcome parameters i.e. early restoration of breast feeding, as if the mother starts feeding the baby within 24 hours after the procedure (Percutaneous aspiration or Incision & drainage), pain score by using VAS and time of healing. Follow-up was taken at post-procedure 7 days (1st Visit), 14 days (2nd Visit) and at 1 month (3rd Visit). Complete data was analyzed by SPSS 24.0 version.

RESULTS

Mean age of the patients in group I was 30.11±8.56 years with mean BMI 26.9±3.77 kg/m² while mean age in group II was 29.17±9.44 years with mean BMI 26.08±3.27 kg/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)

Table 1: Baseline details demographics of enrolled cases

Variables	Group I	Group II
Mean age (years)	30.11+8.56	29.17+9.44
Mean BMI (kg/m ²)	26.9+3.77	26.08+3.27
Mean weight (kg)	72.19+17.44	74.35+19.78
Mean height (cm)	154.12+9.55	156.08+8.71

We found that restoration of breast feeding among group I was 47 (85.45%) and in group II 32 (58.2%) patients restored breast feeding. The difference was statistically significant with p-value <0.05. Mean pain score was less in group I 1.22+4.31 as compared to group II 2.77+3.64. At first visit majority of the patients were healed in aspiration group 34 (61.8%) while in group II 23 (41.8%) cases healed. Frequency of scars was higher in group II 25 (45.4%) as compared to group I 11 (20%). (Table 2)

Table 2: Comparison of outcomes among both groups

Variables	Group I (n=55)	Group II (n=55)	P-value
Restoration of breast feeding			
Yes	47 (85.45%)	32 (58.2%)	0.0001
No	8 (14.55%)	23 (41.8%)	
Mean pain Score (VAS)	1.22+4.31	2.77+3.64	
Healing			
At 1st Visit	34 (61.8%)	23 (41.8%)	0.0003
At 2nd Visit	15 (27.3%)	22 (40%)	
At 3rd Visit	6 (10.9%)	10 (18.2%)	
Frequency of Scars			
Yes	11 (20%)	25 (45.5%)	0.0002
No	44 (80%)	30 (54.5%)	

Satisfaction among patients in group I was higher 45 (81.82%) as compared to group II 31 (56.4%). The difference was statistically significant with p-value <0.05.(table 3)

Table 3: Comparison of satisfaction of patients among both groups

Variables	Group I (n=55)	Group II (n=55)	P-value
Satisfaction rate			
Yes	45 (81.82%)	31 (56.4%)	0.0001
No	10 (18.18%)	24 (43.6%)	

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 this comparative study 110 women with ages between 20-45 years were presented. Patients were equally divided into two groups. Mean age of the patients in group I was 30.11±8.56 years with mean BMI 26.9±3.77 kg/m² while mean age in group II was 29.17±9.44 years with mean BMI 26.08±3.27 kg/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 anesthesia, 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. The difference was statistically significant with p-value <0.05. [14] Most nursing moms continued breastfeeding satisfactorily during the therapy period in Christensen et al's trial, whereas 66.2 percent of lactating patients did the

same in Chandika AB et al's study. [17,18] In a study by Garg and coworkers, the success rate was 84%. [19] There was an 83.3 percent success rate reported by Elagili F. et al. [20] Mean pain score was less in group I 1.22+4.31 as compared to group II 2.77+3.64. At first visit majority of the patients were healed in aspiration group 34 (61.8%) while in group II 23 (41.8%) cases healed. Frequency of scars was higher in group II 25 (45.4%) as compared to group I 11 (20%). [14-20]

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. 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" [21] are all side consequences of "incision and drainage." In our 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 [22]. Sharma 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 [23].

CONCLUSION

We concluded in this study that percutaneous aspiration in breast abscess was successful and affective as compared to incision drainage with less complications and high satisfaction rate among the women.

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