

Surgical Improvement of Breast Abscess in Lactating Mothers

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ABSTRACT

Objective: To examine the overall diagnostic and the surgical outcomes among lactating females of breast abscesses who were treated using minimally invasive procedures.

Methods: This descriptive case series study was conducted during the seven months from May 2019 to November 2019. At the general surgery department of Liaquat University of Medical & Health Sciences, Jamshoro, treated 60 lactating female patients with probable breast abscesses, with an age of more than 18 years. Percutaneous drainage insertion and ultrasound guided fine needle aspiration (FNA) were used in the treatment of breast abscesses in a minimally invasive manner. Ultrasound-guided fine needle aspiration was performed during drainage installation, followed by the insertion percutaneously of the ordinary drainage catheter through a prick incision. Data was collected by study proforma and SPSS version 20 was used for the analysis of data.

Results: Average age of the females was 40 years. Clinical inflammation like puerperal mastitis was in 24(40%) patients, non- puerperal mastitis was in 27(45%) of the cases and other inflammation like as folliculitis and infected seroma were in 9(15%) patients. Fibrocystic variation was seen in 58 percent of the participants. 67 percent of non- puerperal mastitis patients had fibrocystic variations, 17 percent of puerperal mastitis patients had fibrocystic variations, and 56 percent of the other patients with other inflammatory forms had fibrocystic variations. Early problems occurred in 12 of every 60 patients (20%) whose are treated using minimally invasive procedures.

Conclusion: As per study conclusion, fine needle aspiration (FNA) as per ultrasound guidance minimally invasive therapy combined with antibiotic treatment was observed to be the effective treatment approach for breast abscesses, and it is also a feasible and safe in terms of less post-operative recovery duration, complications, and hospital stay.

Keywords: lactating mothers, Abscess, breast, surgery

INTRODUCTION

Breast abscesses are a limited collection of inflammatory exudates in the breast tissues that are frequent in lactating women. Breast abscesses develop more commonly when cellulitis or mastitis does not respond to antibiotic treatment and when the breast infection is initially exposed.¹ It is a rare occurrence among breastfeeding women, with a prevalent rate of 0.1 percent and varies from 0.4 to 11 percent among all lactating females, as well as 3 percent among women with antibiotic-treated mastitis. It can develop as a result of other ongoing diseases like periductal mastitis, skin infection or granulomatous lobular, and it can also develop as a complication of other ongoing illnesses such as periductal mastitis, skin infection or granulomatous lobular, which is referred to as secondary.² Stress, infrequent breastfeeding, painful nipples, or milk stasis caused by duct blockage are all risk factors of the breast abscess development. Furthermore, numerous other factors such as gestational age greater than 41 weeks, maternal age greater than 30 years, and a history of mastitis can all contribute to the establishment of an abscess.³ Because of inadequate and inexperienced feeding methods, as well as decreased baby connection, the most prevalent pathogen, *Staphylococcus aureus*, enters breasts through broken nipples, especially in primipara. It is widespread in developing nations because of inadequate nutrition, maternal poor hygiene, antibiotic administration delays, and a low standard of living. Swelling, discomfort, and redness on the infected breasts are common symptoms of a breast abscess. Malaise, fever, and rare rigors may occur.⁴ Surgical incision and drainage are the standard treatments for breast abscesses, followed by digital septa rupture, contents evacuation, and surgical drain insertion on occasion. Breast abscesses are most commonly found in young lactating females, but non-lactational abscesses can also be found in older women towards the end of their reproductive years.⁵ To avoid the progression of uncomplicated sepsis and infection, early diagnosis and care recommendations are critical. Meanwhile, a lack of agreement on appropriate administration procedures could result in treatment pauses and worsening outcomes. Surgical incision and drainage, percutaneous

aspiration, and antibiotics are the most common therapeutic options.⁶ Advances in quality and ultrasound accessibility are also allowing for quicker access to successful treatment, especially for large abscesses. The goal of this study was to look at diagnostic and surgical outcomes among lactating females with abscesses of the breast who were treated using minimally invasive procedures.

MATERIAL AND METHODS

This descriptive case series study was done during the seven months from May 2019 to November 2019. At the general surgery department of Liaquat University of Medical & Health Sciences, Jamshoro, treated a total of 60 lactating female patients with probable breast abscesses, with an age of more than 18 years, who had a documented course of sickness and case history for at least 6 months. Surgical experts determined that treatment and imaging were required for the patients. The radiological information system was used to identify all cases, diagnosed with breast abscesses and confined breasts' acute inflammation. Patient information for the current investigation was gathered from gynaecological histories, including risk factors for the breast abscesses development and relevant therapies. Additionally, data from external radiological examinations, cytopathological, and microbiological investigations were discovered. Percutaneous drainage insertion and ultrasound guided fine needle aspiration were used to treat all of breast abscesses cases in a minimally invasive manner. A 20-gauge needle was used to deliver local anaesthetic and superficial cleaning, and the mandarin was included for the aspiration of the abscess's center. When aspiration proved difficult, the 18-gauge needle was used to remove viscous material, and the cavity of the abscess was rinsed with saline sterile solution. Ultrasound-guided fine needle aspiration was performed during the placement of drainage, following by the percutaneously insertion of a standard drainage catheter through a prick incision. The drainage catheter was placed alternately and directly, as per ultrasound guidance, to aid in the aspiration of materials. General anaesthesia was used before making an incision to thoroughly access the abscess cavity

during breast abscess surgical therapy. Before extensively irrigation of the abscess cavity, a sample tissue of the abscess cavity was resected, and the necrotic tissue was removed, followed by the insertion of a long lumen drainage catheter. Following drainage, the wound cavities were kept open and irrigated at regular intervals after surgery. Abscesses larger than 3 cm in diameter were often treated with surgical incisions and drainage as per ultrasound guidance. Other clinical criteria, such as localization and inflammation in the surrounding phlegmonous, were taken into account for further treatment. For the ultimate treatment decision, patients' preferences were taken into account.¹⁰ All the data was collected via study proforma and data analysis was done using PSS version 20.

RESULTS

The 60 female patients with breast abscesses included in this study had an average age of 40 years, ranging from 18 to 50 years. In the suffered cases the puerperal mastitis was in 24(40%) of the cases and non-puerperal mastitis was in 27(45%) in study subjects as well as various types of inflammation such as infected seroma and folliculitis was in 9 (15%) of the cases. Fibrocystic variation was seen in 58% percent of the participants (35/60). 18/27 (67 percent) of non-puerperal mastitis patients had fibrocystic variations, 4/24 (17 percent) of puerperal mastitis patients had fibrocystic variations, and 5/9 (56 percent) of other patients with other inflammatory forms had fibrocystic variations. Early problems occurred in 12 of every 60 patients (20%) who were treated using minimally invasive procedures. In contrast to those cases who were undergone minimally invasive treatment, cases those underwent an operational procedure as a primary treatment without any complication development. The study subjects those were undergone ultrasound guided FNA and the placement of percutaneous drainage found without post-operative complications.

DISCUSSION

The current study's findings revealed that fine needle aspiration therapy as per ultrasound guidance for breast abscesses combined with antibiotics is a minimally invasive treatment option that can replace open surgery for effective treatment and is consistent with other studies' findings.¹¹ The small incision site combined with minimally invasive therapy for breastfeeding women with puerperal mastitis allows them to return to normal life sooner by lowering the risk of recurrent galactostasis, as well as providing a positive psychological outcome. Meanwhile, only aspiration was employed in the treatment of smaller abscesses smaller <3 cm, whereas un-capsulated and bigger abscesses usually needed the placement of a catheter for drainage. The most of women who had drainage placements said that they were able to achieve similar results as ultrasound guided FNA aspiration, such as improved cosmetic outcomes, general anaesthesia not required, less hospital stay, and lower overall treatment expenses. Furthermore, when compared to FNA, placement of a drainage has the capacity to swiftly clear larger abscesses and their viscous contents.¹² Furthermore, when compared to aspiration, a major disadvantage of placement of a catheter is that during complex abscess growth, such as multi-septate abscesses, the drainage can't reach all of the discretely existent compartments, inhibiting a complete and rapid draining.¹³ However, this disadvantage can be mitigated by the fact that discrete abscess septa can tear at the time of the catheter insertion procedure.¹⁴ As a result, the surgical apparatuses or hand septa shattering can both produce the same result. The findings of this study also show that bigger mammae

cavities, like as those caused by galactostasis or fibrocystic changes in the presence of the previously injured breast tissues, such as those caused by radiation therapy or operations, can increase the prevalence of inflammation in breast abscesses.¹⁵ This study proved that the ultrasound guided FNA is the minimally invasive therapy combined with antibiotic management can be an effective management approach for the management of the breast abscesses in the surgical procedures. As per limitations this was a very small sample size study, hence mor large sample size studies should be done to observe the technique effectiveness.

CONCLUSION

As per study conclusion, the fine needle aspiration (FNA) ultrasound guided minimally invasive therapy combined with antibiotic treatment was observed to be the effective treatment approach for breast abscesses, and it is also a feasible and safe in terms of less post-operative recovery duration, complications, and hospital stay. Further large-scale studies should be done on this subject.

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