Original Research Paper

General Surgery

COMPARISION OF OUTCOME BETWEEN PERCUTANEOUS ASPIRATION AND INCISION AND DRAINAGE IN CASES OF LACTATIONNAL BREAST ABSCESS

Mohammad Adil	Post-Graduate Trainee, Department of General Surgery, PMCH Patna.			
Md Habibullah Ansari	Post-Graduate Trainee, Department of General Surgery, PMCH Patna.			
Shweta Kumari	Post-Graduate Trainee, Department of General Surgery, PMCH Patna.			
Rabindra Kumar	Associate Professor, Department of General Surgery, PMCH Patna.			
Md Umar*	Post-Graduate Trainee, Department of General Surgery, RIMS Ranchi. *Corresponding Author			

ABSTRACT

Background: Breast abscesses are defined as formation of pus in breast tissues and are usually common in lactating mothers. The frequency of outcome is highly related to pregnancy and caused due to nipple piercing by a child during feeding and bacterial colonization due to improper nursing technique and incomplete emptying of the breast. This study was done to compare the outcome of percutaneous aspiration with incision drainage for management of breast abscess among lactating mothers.

Methods: This is a comparative study carried out in department of general surgery, Patna Medical College and Hospital, Patna from March 2018 to December 2019. 40 female patients of age between 18-35 years and diagnosed breast abscess with abscess size of less than 4 cm in diameter on ultrasonography were included in the study after taking written consent form. Of these 20 had undergone aspiration of the breast abscess (group A) and 20 had undergone incision and drainage of the breast abscess (group B). The patients were evaluated for healing of abscess. Statistical significance determined by Chi-Square test (p < 0.05 was taken significant)

Results: The common organism encountered was S. aureus. Mean healing time and cosmetically healing time was significantly very good in patients treated with needle aspiration compared to incision and drainage. There was no recurrence of breast abscess observed in needle aspiration group. There was 3.3% recurrence in incision and drainage group.

Conclusions: Percutaneous aspiration of the breast abscess is a better and safer alternate to incision and drainage in lactating females and has a good cosmetic outcome.

KEYWORDS:

INTRODUCTION

Breast abscess is one of the commonest form of abscess surgical emergencies usually seen in lactating woman.^{1,2} The frequency of occurrence is highly related to pregnancy and mainly caused due to nipple piercing by a child during feeding and bacterial colonization due to improper nursing technique and incomplete emptying of the breast.^{3,} Immediate diagnosis and treatment is necessary if breast feeding is to be continued and for the prevention of further complications.⁵

Treatment of breast abscesses is a difficult clinical problem.⁶ at an early stage, acute mastitis may be treated by the use of appropriate antibiotics. Once an abscess is established, management involves incision and drainage by providing general anesthesia however this is associated with regular dressing, prolonged healing time, difficulty in breast feeding, possible unsatisfactory cosmetic outcome, rupture and recurrent breast abscess.7 Hence now-a-days treatment of breast abscess by repeated needle aspiration with or without ultrasound guidance gained importance.^{8,9} This procedure has been used successful and is associated with less recurrence, excellent cosmetic result and has less costs.¹⁰

This study was aimed to compare the outcome and effectiven ess of traditional treatment incision and drainage against needle aspiration in the treatment of breast abscess in terms of time required for healing time and cosmetic outcome.

METHODS

This is a comparative study carried out in department of general surgery, Patna Medical College and Hospital, Patna from March 2018 to December 2019. 40 female patients of age

between 18-35 years and diagnosed breast abscess with abscess size of less than 4 cm in diameter on ultrasonography were included in the study after taking written consent form. Of these 20 had undergone aspiration of the breast abscess (group A) and 20 had undergone incision and drainage of the breast abscess (group B). The patients were evaluated for healing of abscess. Statistical significance determined by Chi-Square test (p < 0.05 was taken significant)

Exclusion criteria were patients of age <18 or >35 years, suspicious lesions/malignancy esp. inflammatory carcinoma of breast, immunocompromised, recurrent breast abscess, ruptured abscess, tuberculosis and complicated breast abscess presenting with skin changes, ulceration, necrosis and gangrenous abscess.

The patients were diagnosed clinically for duration, site, nature and past history of abscess. General examination including pulse rate, blood pressure and body temperature were recorded. Detailed examination of breasts was carried including increased temperature, tenderness, and discharge from the nipple, fluctuation and axillary lymphadenopathy. Blood investigation for total leucocyte count was made.

Needle Aspiration

An 18 G needle and a 20 ml syringe were used in each case. The breast was stabilized with the index finger and the thumb. The abscess was localized and needle was inserted in to the abscess from the area of normal skin without using any anesthesia. Abscess was aspirated and the syringe was detached, pus aspirated was sent for culture and antibiotic sensitivity. Another syringe or the same syringe was again attached to the needle, which was placed in the abscess.

Similar procedure was carried out until no pus was aspirated. Aspiration was repeated every alternate day if required until the mass had completely resolved or until three needle aspirations had been performed. If the abscess had not resolved by this time, this result was accepted as a treatment failure and the incision and drainage procedure was then implemented. The time required for the procedure in aspiration was calculated as soon as the surgeon has started the procedure of aspiration by stabilizing the abscess till no pus is aspirated. The puncture site is sealed with tincture benzoin application.

Incision And Drainage

The abscess was localized and incised near the areolar margin and along skin lines under general anesthesia. All pus was evacuated, and loculi were broken down digitally or by using the artery forceps. The pus drained was sent for culture sensitivity. The wounds were left open to drain and dressed on alternate day until the wound was clean and granulated. The healing time in this group was the time from incision and drainage to wound closure either by secondary intention or by secondary suturing if required. The time required for the procedure in incision and drainage is calculated when the surgeon stabilizes the breast for incision to be taken till the final dressing application.

After the procedure, the patients were treated with antibiotic amoxicillin (500 mg)-clavulanate (125 mg) orally and analgesic as diclofenac (50 mg) and tab. pantoprazole (40 mg) for 2 days. Analgesic was added as required. Follow up of the patient was done after every 2nd days. Clinical assessment of the patients about resolution of the abscess was then performed. For the incision and drainage group, dressing of the wound was done every alternate day till the wound healed. For the aspiration group, re-aspiration was performed if abscess had not subsided. Failure of aspiration in three episodes was regarded as failure of the procedure and abscess was incised.

The postoperative pain was graded according to the numeric rating scale on every alternate day as 0-no pain, 1-3 mild pain, 4-6 moderate pain and 7-10 severe pain. The healing time was calculated from the day of intervention till the day the abscess was completely healed. Complete healing was defined to be complete resolution of abscess on follow up ultrasonography scan in the aspirated group and that the incised group was from the day of intervention till the wound healed. The healing of wound was by secondary intention or by secondary closure on follow up days. The patients were assessed cosmetically on the basis of scar present or absent and the cosmetic acceptability of the scar was not studied.

RESULTS

eA total of 40 patients were included in our study. All patients were age of the cases ranging from 18-35 years with average being 23.93 years among group A which was comparable to 23.20 years among group B.

The mean healing time was 4.27 among group A that was significantly less as compared to 7.60 among group B.

Table 7: Comparison Of Cosmetic Outcome Between Two Groups.

Outcome	Group A		Group B	
	No	%	No	%
Scar	04	13.3	30	100.0
No scar	26	86.7	-	-

Cosmetic outcome was assessed at the time of follow up after the abscess was completely healed. The outcome was assessed as patients having scar over the breast or not and overall patients satisfaction.



Figure 10: Comparison Of Mean Healing Time Between Two Groups.

DISCUSSION

In our comparative study, we compared two groups, aspiration and incision and drainage of the breast abscess in the management of it. In the current report, patients age range has some similarity with the result of Dixon et al and Dener et al, who demonstrated that breast abscesses most commonly affects women aged 18-50 years.^{24,11}

In our study the culture-sensitivity reveals the presence of S. aureus and S. pyogenes. We have 11 (55%) patients who had S. aureus positive reports. Similar finding has been reported by Singh et al and Elagili et al.¹³

In our study of the 20 patients who underwent aspiration, 19 were treated successfully without any complication on follow up. The success rate achieved was 99%. This was comparable with the study conducted by O'Hara et al reported an 86% cure rate.¹⁴

There was no recurrence of breast abscess observed in needle aspiration group during the study. However the recurrence rate was far less than 3.3% in the incision and drainage group. This small recurrence rate observed may have resulted from a short follow up period.

Wound healing was significantly faster in the aspirated group than in the incised group (4.3 days versus 7.7 days), this finding was similar to the study done by Eryilmaz et al.¹²

In the present study the cosmetic outcome was evaluated according to patient's satisfaction and scar mark. Patients underwent with aspiration, were satisfied with the cosmetic outcome, as there were no scars present after the treatment as similar to the studies of Singh et al and Kastrup et al.¹³

CONCLUSION

Hygiene factors were responsible for breast infection and timely treatment the effective cureand therefore more preferable. At the acute phase of disease, the condition can be completely curable with no risk of re-occurrence. To treat this condition there is a number of therapeutic approaches including needle aspiration and incision and drainage. The subcutaneous aspiration is a safe, effective procedure and takes less healing time. The incision and drainage approach is less effective with more re-occurrence rates. It is more expensive and takes more healing time. On the basis of our findings we see percutaneous aspiration is better than incision and drainage.

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