



MANAGEMENT OF BREAST ABSCESS: COMPARISON OF REPEAT ULTRASOUND GUIDED NEEDLE ASPIRATION AND INCISION AND DRAINAGE

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ABSTRACT **Objective:** The present study tries to compare the two treatment modalities ultrasound guided needle aspiration and incision and drainage and assess their outcome in patients with breast abscess.

Material And Method: Prospective randomized controlled trial conducted on 200 patients presenting with breast abscess in surgical outdoor in various surgical units in Department of General Surgery, J.L.N Medical college and associated group of hospitals, Ajmer during January 2017-December 2018 time period.

Result: Maximum patients were in age group 21-30 years 100(50%), lactating mothers (132) outweighs non lactating females (68). Most common side involved is right. Requirement of analgesics was more in incision and drainage group. Duration of hospital stay was more for incision and drainage group.

Conclusion: Ultrasound guided needle aspiration is good and cosmetically better alternative to incision and drainage.

KEYWORDS : Breast Abscess, Needle Aspiration, Incision And Drainage

INTRODUCTION

Breast abscess is defined as an acute inflammatory lump which yields pus on incision/aspiration.[1] It is a common staphylococcal soft tissue infection which is characterized by localized pain, swelling, and redness associated with a mass that may or may not be fluctuant. [2]

Breast abscesses have traditionally required a surgical incision to allow drainage of the abscess, which is usually performed under general anesthesia followed by administration of antibiotics [3]. However, this treatment strategy can interfere with lactation and potentially yields poor cosmetic results. More recently, the use of US-guided needle aspiration, or drainage with a catheter, has been shown to successfully treat breast abscesses [4]. Lactation breast abscess occurring during breast feeding is the result of Staphylococcus infection. Such abscesses tend to occur at the commencement of breast feeding when an inexperienced mother developed cracked nipples. They also occur at weaning when engorgement results from incomplete drainage of breast milk. Non-lactation breast abscesses are entirely different from those occurring during breast feeding. They occur in the peri-areolar tissues, frequently recur, and infecting organisms are a mixture of bacteroides, anaerobic streptococci, and enterococci. Such non-lactation breast abscess is a manifestation of duct ectasia/periductal mastitis.

Traditional treatment of breast abscess is by surgical incision and drainage. Imaging guided percutaneous needle aspiration of purulent collections is a known alternative to standard treatment which has become more popular as it is less invasive, cosmetically better and can be managed entirely on outpatient basis as compared to incision and drainage [5]. The present study tries to compare the two treatment modalities ultrasound guided needle aspiration and incision and drainage and assess their outcome in patients with breast abscess.

AIMS AND OBJECTIVES

To compare the clinical outcome in patients with breast abscess treated with

1. Needle aspiration under ultrasound guidance
2. Incision and drainage

MATERIAL AND METHOD

This hospital based prospective randomized controlled trial conducted on the all women above 18 years of age and below 45 years of age presenting with breast abscess in surgical outdoor in various surgical units in Department of General Surgery, J.L.N Medical college and associated group of hospitals, Ajmer.

200 patients will be included in the study.100 of them will be randomized in the aspiration group and other 100 will be treated by incision and drainage.

Patients who refuse follow up, and with recurrent abscesses, with signs

of impending rupture, with necrotic skin overlying the abscess, already draining and immunosuppressed are excluded from study.

Clinical diagnosis was made based on the presence of a fluctuant tender breast swelling.

Pts were then subjected to USG scan (high frequency linear transducer of 7.5MHZ) in radiology department. The diagnosis was confirmed sonographically by the presence of a thick-walled echo complex mass, predominantly cystic with internal echoes and septations.

Patients were then randomly divided into each group by odd and even method. A written informed consent was taken from all patients included in the study.

All patients were randomly divided into two groups: -

Group A: ultrasound guided needle aspiration

Group B: incision and drainage of breast abscess

Complete history and general physical examination was done.

A primary ultrasonography of the breast was done at time of admission for abscess size, location and number.

Group A: Ultrasound Guided Needle Aspiration

Patients under the needle aspiration arm were managed in the Department of Radiology, Ultrasound room as outpatient cases. All needle aspirations were done under local anesthesia for which a small area of the skin adjacent to the abscess was anaesthetized using 0.5% lignocaine and a 23G needle. Aspiration was done under ultrasound guidance maintaining all aseptic precautions and using a 16G needle and a 20-ml syringe (figure 1). Initial pus that was aspirated was sent for culture and sensitivity.



Figure 1: Tip Of Needle In Abscess Cavity During Aspiration

Aspiration was done until there is no significant residual pus. After the procedure the patient was discharged on antibiotics and analgesics, Co-Amoxycylac-625mg orally 8hry for 10 days and Diclofenac 75 mg I/M stat then 50 mg orally 8hry for 3 days respectively.

Group B — Incision and Drainage

The procedure was done under GA.

A skin-deep incision was made over the abscess along the Langer's lines and sinus forceps used to reach the abscess cavity (figure 2). Initial pus that was aspirated was sent for culture and sensitivity. The pus was then evacuated and the loculi broken down digitally. The cavity was lavaged with saline and the wound packed with sterile gauze followed by aseptic dressing.



Figure 2: Incision And Drainage Of Breast Abscess

Post intervention all the patients were put on analgesics and antibiotics. The follow up of patients done on days 3, 7, 14, 21 post intervention. The patients were assessed in the post intervention period primarily for:-

1. Presence/Absence of fever
2. Decreased in leucocyte counts
3. Analgesic requirement
4. Healing rate
5. Number of aspirations required in the needle aspiration group
6. Number of days of dressing required in patients in the incision and drainage group
7. Days of hospital stay

RESULTS

The present study was carried out between January 2017 and December 2018 for duration of 2 years, and comprised of a total of 200 cases of clinically diagnosed breast abscess. The patients were randomly divided into two groups of 100 patients each. Group A underwent ultra sonographic guided needle aspiration of the abscess and the group B underwent incision and drainage of the breast abscess.

Maximum patients were in age group 21-30 years 100(50%), lactating mothers (132) outweighs non lactating females (68). Most common side involved is right. Requirement of analgesics was more in incision and drainage group (table 1). Duration of hospital stay and regular dressing requirement was more for incision and drainage group. Presence of fever and total leucocyte count is less in incision and drainage group (table 1).

Table 1:

Cross tab			Incision and drainage group	Needle aspiration group	Total
Requirement of analgesics (POD 2)	Yes	Count	90	32	122
		%	90%	32%	61%
	No	Count	10	68	78
		%	10%	68%	39%
TLC count (POD 2)	Normal	Count	50	74	124
		%	50%	74%	62%
	Raised	Count	50	26	76
		%	50%	26%	38%
Presence of fever (POD 2)	Present	Count	20	42	62
		%	20%	42%	31%
	Absent	Count	80	58	138
		%	80%	58%	69%

POD (post of days), TLC (total leucocyte count)

Chi- square test for requirement of analgesics

	Value	df	Asymp. Sig. (2-sided)	Statistical significance
Pearson Chi-Square	35.351 ^a	1	.0005	yes

DISCUSSION

Lactation breast abscesses are more common than non-lactation breast abscesses. In our study of 200 cases, (66%) cases were lactation and (34%) cases were non-lactation breast abscesses which is comparable with the findings in the series of Schwarz et al. [6] with 83% (lactation) and 17% (non-lactation). The mean age of our patients was 27.90 years (range: 19-80 years) which is consistent with the finding of Elagili et al.[7] and Ulitzsch et al.[8] Staphylococcus aureus was the most common pathogen isolated in this study in 60 (30%) cases which is comparable with findings by Elagili et al.,[7] Ulitzsch et al.[8] Of the 100 patients aspirated in our study, (84%) resolved well without recurrence with three aspirations, (16%) cases failed to repeated aspiration and underwent incision and drainage. The success rate by needle aspiration without resorting to surgical drainage was 84%. These findings were in consistent with the reports of Schwarz et al.[6] On follow-up, most of the patients on whom aspiration was successfully done were satisfied with the treatment psychologically as there was no separation from the baby during the treatment. On the other hand, those treated with incision and drainage was psychologically disturbed. 84 patients who underwent needle aspiration have no scar and were cosmetically acceptable. On the other hand who underwent incision and drainage had ugly scars. Similar outcomes of good cosmesis after needle aspiration of breast abscess were reported by Schwarz et al. [6] Elagili et al. [7]. Patients in the incision and drainage group showed an earlier resolution of fever by the fact that incision and drainage result in complete evacuation of the abscess cavity as opposed to needle aspiration. Pain was less in needle aspiration group.

CONCLUSION

Breast abscess still remains a common problem especially, for lactating mother and their babies who require continued breast feeding. In the past, most patients with a lactating abscess have been treated by incision and drainage of the abscess under general anesthesia. These may cause considerable distress to both the mother and baby and the final cosmetic result is often unsatisfactory. Ultrasound guided needle aspiration and an antibiotic with a cosmetic satisfaction is excellent alternative.

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