ORIGINAL RESEARCH PAPER

General Surgery

ULTRASOUND GUIDED NEEDLE ASPIRATION VERSUS INCISION AND DRAINAGE IN THE MANAGEMENT OF BREAST ABSCESS: A COMPARATIVE STUDY IN SMCH, SILCHAR

KEY WORDS: Splenic length, Ultrasonography

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ABSTRACT

Acute inflammation of the breast usually occurs in lactating women. Surgical incision and drainage is traditional method of treatment of breast abscess. But USG guided aspiration of abscess has now become standard of care in the management of breast abscess. Breast abscess remains a morbid condition among lactating women in developing countries due to poor hygiene, nutrition and lack of health care. **Aims and objectives:** To compare the outcomes in management of breast abscess by ultrasound guided needle aspiration against incision and drainage. **Material and methods:** 80 patients were taken for study, 40 patients in each group. A detailed history of all patients were taken and all relevant investigations were done. All the patients were followed up regularly to find the cure rate, recurrence and healing time was calculated. Patient satisfaction were also recorded. **Results:** The mean healing time in USG guided aspiration was 9.7 days while in Incision & drainage group were 14.525 days. The patient satisfaction rate were more in USG guided aspirated group. However, the recurrence rate were slighter higher in USG guided group. **Conclusion:** USG guided aspiration is simple, safe, painless and effective way of treating breast abscess.

Introduction:

Breast abscess is defined as localized infection with accumulation of pus in the breast tissue.[1] While breast abscesses are less common in developed countries as a result of improved hygiene, nutrition, standard of living & early administration of antibiotics; whereas breast abscess remains a problem in developing countries. Breast abscess remains a morbid condition among lactating women in developing countries, manifestations range from mastitis to abscess formation.[2]

The primary organisms causing breast abscess are Staphylococcus Aureus followed by Streptococcus or Escherichia coli.

Traditionally, breast abscess were managed via incision & drainage with antibiotic therapy, but this treatment strategy is associated with a prolonged healing time, regular dressing & unsatisfactory outcomes.[3]

More recently, the current first line treatment for breast abscess is USG guided needle aspiration with antibiotic. Ultrasound has been shown to be useful in diagnosis of breast abscesses, guiding needle placement during aspiration and also enables visualization of multiple abscess loculation.[4]

This study was aimed to compare the outcome and effectiveness of traditional treatment incision and drainage against needle aspiration in the treatment of breast abscess in terms of time required for the procedure, duration of hospital stay, healing time, cosmetic outcome and postoperative pain.

MATERIALS AND METHODS:

The study comprises of 80 breast abscess patients who underwent either USG guided aspiration or Incision & drainage on random basis, 40 patients in each category. The study was undertaken in the Department of General Surgery, Silchar Medical College, Silchar, Assam. The period of study was 12 months, commencing from August 2018 to July 2019 and it was comparison study.

Inclusion Critera: Women diagnosed with clinically and radiologically diagnosed breast abscess who gave consent for surgical intervention i.e. Incision & Drainage or USG guided aspiration.

Exclusion Criteria: Immunosuppresion patient with breast abscess and very large abscess with underlying skin necrosis.

Follow Up: The patients were followed up on day 3rd, 7th and 14th post intervention and the healing time, recurrence rate, milk fistula, wound gaping and patient satisfaction was noted.

RESULTS AND OBSERVATION:

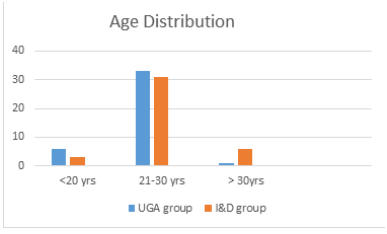

Fig. 1. Shows the age distribution among the patients

The average age of the women who underwent UGA were 23.25 years, while in incision and drainage group it was 26.05years.

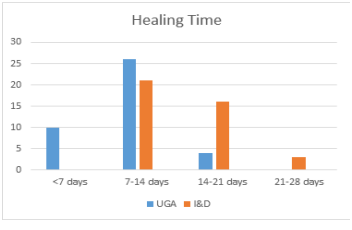

Fig.2. Shows the healing time among the patients

The mean healing time in UGA was 9.7 days, while in Incision & Draiange it was observed to be 14.525 days.

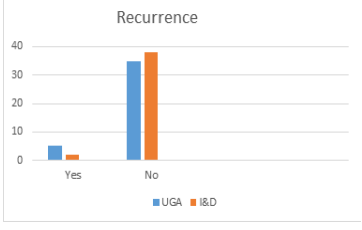

Fig 3. Shows the recurrence rate among the patients

The recurrence rate in UGA was 12.5% and in case of Incision & Drainage was 5%.

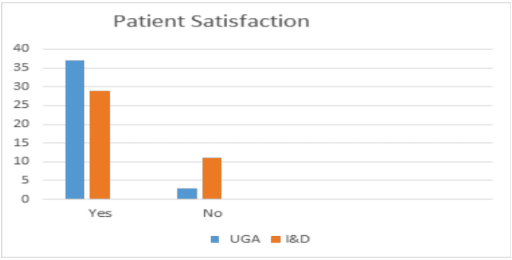

Fig.4.Shows the patient satisfaction among the patients

The satisfaction rate in UGA patients were to be found 92.5% and in Incision & Drainage it was 72.5%.

DISCUSSION:

The breast is one of the sex organs of a female, in case of breast disease care should be taken to insure that its beauty is minimally compromised in order to preserve its value and function. Despite of breast abscess becoming less in developed countries due to improved maternal hygiene, nutrition, standard of living and early use of antibiotics, breast abscess remain a problem among in developing countries.

The present study was carried out among the patient of clinically, radiologically diagnosed breast abscess who attended the casualty, outpatient department of general surgery at Silchar Medical College from August 2018 to July 2019. There were total 80 patients with breast abscess which were undergone Ultrasound guided needle aspiration and Incision & Drainage on random basis, 40 patients in each procedure along with adequate antibiotic coverage.

The mean age was 23.25 year in Ultrasound guided aspiration group & 26.05 year in Incision and Drainage group. Francisco Leborgne et al[5] and Dieter et al[6] also observed similar finding in their study.

In our study pain over swelling, tenderness & raised local temperature was present in all patients of breast abscess in both groups i.e. incised group and USG aspirated group. Schwarz et al[7] & Faisal Elagili[8] et al also observed similar sign and symptoms in their study.

Among the USG guided aspiration patients, the cure rate was 87.5 % whereas patients managed by incision and drainage procedure with cure rate of 95 %. Dixon JM et al[3] reported success rate of 84 %. O'Hara et al[9] observed cure rate of 85 % some of them aspirated without sonographic guidance. Alphonce B Chandika et al[10] observed cure rate of 93.1 % in ultrasound guided aspiration.

The recurrence rate of USG guided aspiration was 12.5% in our study which correlates with the study conducted by Francisco Leborgne et al.[5]

The mean healing time in USG guided aspiration group was 9.7 days while in incision drainage group was 14.525 days which correlates with the study of Markus et al.

Four patient (10 %) in incision and drainage group develop milk fistula showing similar findings conducted by Dr. Saira Saleem et al[11] Milk fistula healed spontaneously in these patient after stoppage of breast feeding.

In our study patient treated by USG guided aspiration, the satisfaction rate was 92.5 % and in incision drainage group rate was 72.5% and these findings were in correlation with the study of Dieter et al and Dr. Saira Saleemet et al. There were no cosmetic problems in USG guided aspiration and while in incision drainage group cosmetic results were unsatisfactory.

CONCLUSION:

USG guided aspiration is safe, simple, painless and effective way of treating breast abscess as compared to incision and drainage in properly selected patient.

REFERENCES:

1. Thomsen AC, Espersen T, Maigaard S.; Course and treatment of milk stasis, non-infectious inflammation of the breast, and infectious mastitis in nursing women. Am J Obstet Gynecol, 1984; 143(5):492-495.
2. King TA, Morrow M. Breast disease In: Mulhouand MW, Lillemoe KD, Doherty GM, Maier RV, Simeone DM et al-Greenfield's Surgery-scientific principles & practice. 5th edition. Philadelphia: lippincott Williams & Wilkins; 2011: 1241-1281.
3. Dixon JM. Breast infection. In: Dixon JM, ed. ABC of breast diseases. 3rd ed. Oxford, England: Blackwell, 2006; 19–23.
4. Dencer C, Inon A, Breast abscess in lactating women World J Surg. 2003;27(2):130-133.
5. Leborgne F, Leborgne F. Treatment of breast abscesses with sonographically guided aspiration, irrigation, and instillation of antibiotics. American Journal of Roentgenology. 2003 Oct; 181(4):1089-91.
6. Ulitzsch D, Nyman MK, Carlson RA. Breast abscess in lactating women: US-guided treatment. Radiology. 2004 Sep; 232(3):904-9.
7. Schwarz RJ, Shrestha R. Needle aspiration of breast abscesses. The American journal of surgery. 2001 Aug 1; 182(2):117-9.
8. Amir LH, Lumley J. Women's experience of lactational mastitis – 'I have never felt worse'. Aust Fam Physician 2006; 35:745–7.
9. O'Hara RJ, Dexter SP, Fox JN. Conservative management of infective mastitis and breast abscesses after ultrasonographic assessment. British journal of surgery. 1996 Oct; 83(10):1413-4.
10. Chandika AB, Gakwaya AM, Kiguli-Malwadde E, Chalya PL. Ultrasound Guided Needle Aspiration versus Surgical Drainage in the management of breast abscesses: a Ugandan experience. BMC research notes. 2012 Dec; 5(1):12.
11. SALEEM S, FAROOQ T, KHAN N, Shafiq M, Azeem M, Dab RH. Puerperal breast abscesses. The Professional Medical Journal. 2008 Mar 10; 15(04):431-6.