



A COMPARATIVE STUDY OF CONVENTIONAL INCISION AND DRAINAGE VERSUS INCISION AND DRAINAGE WITH PRIMARY CLOSURE OF THE WOUND IN ACUTE ABSCESS

General Surgery

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ABSTRACT

Acute soft tissue abscesses are common conditions in our environment. For the treatment of skin and soft tissue abscesses, options include repeated aspiration, incision and drainage, incision and drainage with primary closure and conservatively treated by giving antibiotics. The established principle of surgical management of abscesses has been incision and free drainage; this permits healing by secondary intention or treatment by secondary closure. This modality of treatment has been challenged with the introduction of antibiotics. Ellis taught that the abscess wall prevented access of blood-borne antibiotics to the abscess cavity and that if this wall was curetted away the cavity could fill with antibiotic-laden blood clot, permitting safe primary closure. The primary closure technique is supported by many surgeons who showed its effectiveness in the treatment of breast, anorectal, axillary abscesses. Advantages of primary closure technique include faster healing rate, less hospital stay and early return to work, no greater recurrence than the conventional method, better scar formation and reduced cost of labour and material. It may be recommended as an alternative treatment that is superior to the orthodox technique.

KEYWORDS

abscess, primary closure, incision and drainage, antibiotics, recurrence

INTRODUCTION

Acute soft tissue abscesses are common conditions in our environment. For the treatment of skin and soft tissue abscesses, options include repeated aspiration, incision and drainage, incision and drainage with primary closure and conservatively treated by giving antibiotics. The established principle of surgical management of abscesses has been incision and free drainage; this permits healing by secondary intention or treatment by secondary closure. This modality of treatment has been challenged with the introduction of antibiotics.[1] Ellis taught that the abscess wall prevented access of blood-borne antibiotics to the abscess cavity and that if this wall was curetted away the cavity could fill with antibiotic-laden blood clot, permitting safe primary closure.[2,3] The primary closure technique is supported by many surgeons who showed its effectiveness in the treatment of breast, anorectal, axillary abscesses.[4,5,6]

Advantages of primary closure technique:

- Faster healing rate
- Less hospital stay and early return to work
- No greater recurrence than the conventional method
- Better scar formation and
- Finally reduced cost of labour and material

It may be recommended as an alternative treatment that is superior to the orthodox technique.[7,8,9,10,11]

AIM OF STUDY

To compare the conventional method of incision and drainage with alternative method of incision and drainage with primary closure and negative suction drain with regards to better healing rate, less postoperative pain, less hospital stay, low cost and less recurrences

MATERIALS AND METHODS

- A comparative prospective study included 50 cases of acute abscesses at GGH Kakinada.
- Informed consent was obtained from all the patients before inclusion in the study

Inclusion Criteria

- All patients with acute superficial abscesses attending surgical OPD and casualty were included.

Exclusion Criteria

- Patient suffering from systemic diseases like diabetes mellitus, immunodeficiency, anaemia, etc.
- Patients on steroids,
- Deep seated abscesses (e.g., intra-abdominal abscess, pelvic,

thoracic, intracranial abscess),

- And abscess cavity of internal diameter of >5 cm were excluded.

Patients were divided into two groups. Group A includes conventional incision and drainage and Group B includes incision, drainage and primary closure with negative suction drain. First case was allotted, by lottery method and patients were assigned into one group and subsequent patients into alternate groups. Patients were prepared preoperatively. Anaesthesia was given depending on the site and age. Injection amoxicillin (1000 mg) + potassium clavulanate (200 mg) 1.2 g intravenous (I.V.) given before induction of anaesthesia and postoperatively. In both groups, injection amoxicillin (1000 mg) + potassium clavulanate (200 mg) 1.2 g I.V. given 12 hourly for 2 days and then continued with tablet for 3 more days until culture reports were available and then as per culture sensitivity report antibiotics were changed accordingly for next 5 days. In both groups, injection diclofenac sodium 3cc (75 mg) was given stat intramuscular (IM) and then continued with tablet diclofenac sodium twice a day for 3 days. Suction drain was removed after discharge from abscess cavity was minimal (<5 mL/day) and the sutures were removed between 7 th and 14 th day. The average duration of drain removal was 7 days.

Postoperatively wound healing assessment done in:

- Group A: Healing time was recorded from time of incision until the complete obliteration of abscess cavity.
- Group B: Healing time was recorded from time of incision until suture removal after confirming that skin edges were properly approximated.

Pain assessment was done by visual analogue score (VAS) in both groups.

RESULTS

The maximum number of patients in Groups A and B were in the age group 21-30 years. In Group A, of 25 cases, 14 were males and 11 were females. In Group B, 16 were males and 9 were female.

Table 1: Age-wise Distribution Of Cases In Groups A And B

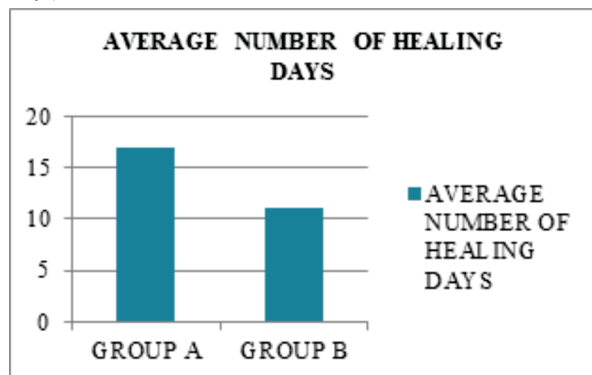
AGE GROUP	GROUP A	GROUP B	TOTAL
11-20	2	2	4
21-30	9	8	17
31-40	2	4	6
41-50	4	6	10
51-60	3	2	5
61-70	5	3	8
TOTAL	25	25	50

Table 2: Gender-wise Distribution Of Cases In Groups A And B

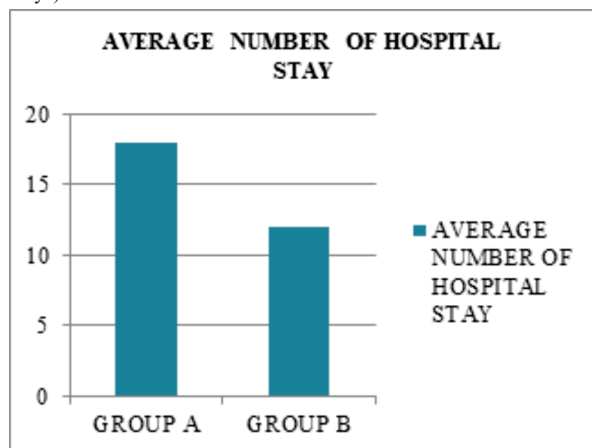
GENDER	GROUP A	GROUP B	TOTAL
MALE	14	16	30
FEMALE	11	9	20
TOTAL	25	25	50

Wound Healing

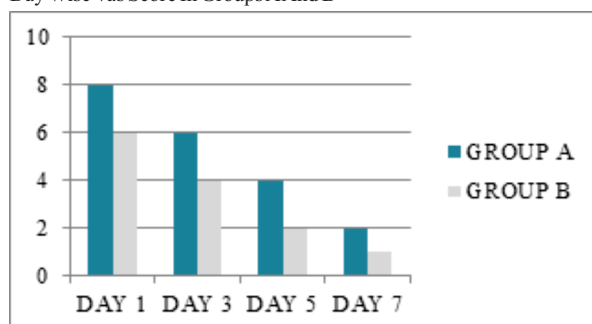
Wound Healing In Group B (11 Days) Was Faster Than In Group A (17 Days).

**Hospital Stay**

Hospital Stay In Group B (12 Days) Was Lesser Than In Group A (18 Days).

**Visual Analogue Scale**

Day Wise Vas Score In Groups A And B

**RECURRENCE**

- Recurrence was found 3 times more in Group A than in Group B. The recurrence of abscess in Group A was more (three cases) as compared to Group B (one case).
- Recurrence in Group A was at three different sites (gluteal region, axilla, and breast), while in Group B, recurrence was in a breast abscess. In both groups, the recurrence was at the primary site.

DISCUSSION

A total of 50 patients were divided into two groups. The comparison was done in regards to wound healing, postoperative pain, hospital stay, cost of treatment, and recurrence. In our study, wound healing was compared between the two groups. Wound healing was significantly faster in Group B as compared with Group A. A study done by Dubey and Choudhary correlates with our study. In their

study, they found that wound healing was faster in acute abscesses treated with primary closure than in conventional incision and drainage. In our study, postoperative pain assessment was done by VAS. On comparing both groups in our study, to attain mild (0-3) VAS patients in Group B needed 3-4 days as compared to 6-7 days in Group A. Similar finding was observed in a study conducted by Abraham et al. In our study, mean hospital stays in Group B was less than in Group A. Mean hospital stay was significantly less in Group B as compared with Group A. Similar finding was observed in a study conducted by Abraham et al. they found that hospitalization was reduced by 40-60% in group with closure of superficial abscess. In our study, recurrence rate was 3 times more in Group A as compared with Group B. Similar finding was seen in a study conducted by Khanna et al.

CONCLUSION

Incision and drainage with primary closure technique was associated with faster wound healing, less postoperative pain, less hospital stay, low cost of treatment, and low recurrence rate than conventional incision and drainage. Primary closure with negative suction drain is a better alternative technique over the conventional incision and drainage method of acute abscesses.

REFERENCES

- [1] Benson, E. A. and Goodman, M. A.: Incision with primary suture treatment of acute puerperal breast abscesses. *Brit. J. Surg.*, 57: 55-58, 1970.
- [2] Ellis, M.: The new treatment for ischiorectal abscesses. *Univ. Leeds Med. J.*, 2: 84-86, 1953.
- [3] Ellis, M.: Incision and primary suture of abscesses of the anal region. *Proc. Roy. Soc. Med.*, 53: 652-654, 1960.
- [4] Ellis, M.: "The Casualty Officer's. Handbook". 3rd Edition, Butterworths, London, 1970, pp. 159-164.
- [5] Hindlekar, M. M. and Samsi, A. B.: Incision, curettage and primary suturing of acute abscesses under antibiotic cover. *Ind. J. Surg.*, 41: 510-514, 1979.
- [6] Howie, C. R., Ribeiro, A. A. and MacLeod, D. A.: Primary closure of abscesses. *Clindamycin or Erythromycin. J. Roy. Coll. Surg. Edinb.*, 27: 9-12, 1982.
- [7] Jones, N. A. G. and Wilson, D. H.: The treatment of acute abscesses by incision, curettage and primary suture under anti biotic cover. *Brit. J. Surg.*, 63: 499-501, 1976.
- [8] Macfie, J. and Harvey, J.: The treatment of acute superficial abscesses-A prospective clinical trial. *Brit. J. Surg.*, 64: 264266, 1977.
- [9] Mehta, R. B. and Achrekar, K. L.: Treatment of acute abscesses by incision curettage and primary suturing. *Ind. J. Surg.*, 42: 543-550, 1980.
- [10] Page, R. E.: Treatment of axillary abscess by incision and primary suture under antibiotic cover. *Brit. J. Surg.*, 61: 493-495, 1974.
- [11] Rangabashyam, N.: Current management of acute soft tissue abscesses. *Ind. J. S2crg.*, 46: 26-38, 1981.