

Pilonidal Sinus: Excision with Primary Midline Closure versus Open Method

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ABSTRACT

OBJECTIVE: To compare the efficacy of primary closure versus open method after excision of pilonidal sinus.

DESIGN: Comparative study.

SETTING: Department of Surgery Liaquat University of Medical & Health Sciences, Jamshoro, Sindh – Pakistan, from January 2003 to December 2006 (4 years).

MATERIAL AND METHODS: Cases of chronic pilonidal sinus were included in this study whereas acute sinuses and recurrent sinus were excluded. Patients were conveniently selected for excision with closure and without closure (group A and group B). Both groups were followed up for 18-months. Efficacy assessed and compared on the basis of operating time, duration of postoperative hospital stay, time off work and recurrence rate.

RESULTS: Each group comprised of 20 patients. The mean age of all 40 patients was 27-years (17-42 years). Males were 37 (92.5%) and females were 3 (7.5%). Respective observations for both groups were mean operative time 91 min (85-95 min) and 69 min (60-75 min), mean postoperative hospital stay 6 days (4-8 days) and 11 days (9-13 days), mean time of wound healing was 11 days (9-13 days) and 39 days (19-42 days), mean off work time was 21 days (10-26 days) and 42 days (22-46 days). Recurrence rate was 11.1% and 5.2% in group A and group B respectively.

CONCLUSION: Though it takes longer to excise pilonidal sinus with primary closure and it has higher recurrence rate, it appears more beneficial due to reduced hospital stay, reduced healing time and early return to work.

KEYWORDS: Pilonidal sinus, excision, primary closure, open method, comparative, recurrence.

INTRODUCTION

Pilonidal sinus is initiated from small midline opening lined by stratified squamous epithelium. Additional sinuses are frequent, having lateral openings. Pilonidal sinus disease consists of a symptom complex with presentation that ranges from asymptomatic pits to painful draining lesions that are predominantly located in sacrococcygeal region.¹

Factors implicated in its etiology are large buttocks with deep natal cleft, adolescent or young males with positive family history, occupations requiring prolonged sitting, body hair folliculitis at another site, obesity and poor local hygiene.²

The disease is active from the late teens and usually resolves by the age of 40-50 years irrespective of the method of treatment.³

Surgical management of symptomatic pilonidal sinus is still a matter of discussion as no clear recommendations exist.⁴ Numerous therapies and surgical techniques have been used for its management; including phenol injection, complete midline excision with or without closure of wound, laying open of track, limited excision, excochleation of sinus with brush, myocutaneous flaps; but recurrence may plaque all forms of therapy.⁵⁻⁷

The choice of treatment of a particular surgical approach depends on the surgeon's familiarity with the procedure and perceived results in terms of low recurrence and quick healing of surgical wound.¹

Objectives: To compare the results of excision of pilonidal sinus with and without closure.

PATIENTS & METHOD

Study Design: comparative study.

Study Duration: Four years, from January 2003 to December 2006.

Sampling Technique: Non-probable convenient sampling.

Inclusion Criteria: Patients with chronic pilonidal sinus.

Exclusion Criteria: Patients with acute sinuses and recurrent cases.

Data Collection Procedure: A total of 40 patients were included in the study after obtaining informed consent. Patients were randomly divided into two groups. Patients of group A were treated by excision of sinus with primary closure and Group B patients were treated by open method (excision and healing by secondary intention). All patients were investigated for general assessment.

Patients were followed-up for 18 months. Follow-up visits were planned at 6 week then 3, 6, 12, 18 months after surgery. Instructions given to the patients at the time of discharge from hospital were avoidance of prolonged sitting and riding until 6-8 weeks, improving local hygiene and regular removal of hair by shaving or depilatory creams.

All the data like age, sex, operative time, hospital stay, time of wound healing and recurrence were recorded on proforma. Results were compared with regards to operating time, hospital stay, time of wound healing, time off work and recurrence.

RESULTS

A total of 40 patients were included in the study, 37 (92.5%) were males and 3 (7.5%) were females. Mean age of our patients was 27 years (ranging 17-42 years). The operative time calculated from the start of skin incision to the application of dressing, which was shorter in group B patients (60-75 min) than group A (85-95 min), while there was no significant difference in blood loss in two groups. Hospital stay was the time from admission until discharge from the hospital. This was shorter for group A patients (4-7 days) than group B patients (9-12 days).

Time required for wound healing was significantly shorter for group A patients (9-11 days) than group B patients 22-42 days. Time off work was also shorter for group A patients. On average it was 19 days in group A patients and 45 days in group B patients.

During this study we also observed that there was no significant difference between two groups in wound complication like infection and abscess. Out of 20 patients of group A, 2 (10%) patients had wound infection whereas 3 (15%) patients of group B had wound infection. All the patients were advised follow up for 18 months. First visit at 6th week then 3, 6, 12 and 18 months. Two patients of group A were lost for follow up and 2 (11.11%) patients had recurrence of the disease, while 1 (5.2%) patient of group B was lost for follow up and 1 (5.2%) had recurrence.

TABLE I: CHARACTERISTICS OF THE STUDY SUBJECTS (n=40)

Sex	
Males	37 (92.5%)
Females	3 (7.5%)
Age	
Mean	27 years
Minimum	17 years
Maximum	42 years

TABLE II: COMPARISON OF OUTCOMES

Outcome	Group A (n=20)	Group B (n=20)	P value
Operative time (min)*	91±12.6	69±9.8	0.035
Hospital stay (days)*	6±.92	11±2.73	<0.001
Wound healing time (days)*	11±2.1	39±7.84	<0.001
Time off work (days)*	21±7.67	42±12.47	0.012
Recurrence rate	11.1%	5.2%	0.01

*= means±SD

DISCUSSION

Pilonidal sinus is an unglamorous surgical condition occurring in young adults having high postoperative morbidity⁸. Ideal therapy for the pilonidal sinus should be associated with short hospital stay, minimum complication and no disease recurrence but this is difficult to achieve.³ This study was conducted to compare the result of excision of pilonidal sinus with or without closure.

During this study a total of 40 cases were operated for pilonidal sinus disease. Regarding demographic data of patients, majority (92.5%) of the patients was male, which is similar to those reported by Tocchi and co-workers (72%).⁶ Mean age was 37 years and most of the patients were obese and hairy. These observations are in agreement with other studies^{8,9}. We observed that the operative time for group B patients was shorter (60-75 min) than group A patients (80-90 min) because they need closure of wound. However there was no difference in blood loss. This is again comparable with other studies^{10,11}.

In our study patients of group A had 4-7 days of hospital stay while in group B patients it was 9-12 days because the wound of group A was closed primarily. Ka-reem also reported shorter hospital stay in cases treated with primary closure¹².

Time of wound healing in days was shorter in group A patients in comparison to group B patients. These results are also at par with other studies^{5,11}.

Mean time off work for patients having primary closure was 19 days and in patients having excision of sinus without primary closure was 42 days; as observed in other studies.^{11,12}

Regarding the recurrence of the sinus in our study we observed that patients who underwent excision followed by primary closure had higher recurrence rate than those having excision of sinus without closure. Almost similar observations were reported by Holme-bakk T and other studies^{11,13}.

CONCLUSION

Excision of pilonidal sinus with primary closure is a better option for treatment. Though the operating time is longer in excision of pilonidal sinus with primary closure, the reduced duration of hospital stay, quick healing of wound and early return to work make it more beneficial for the patients.

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