

Pilonidal Sinus Disease in Kuwait. A Modified Method of Excision with Primary Closure: Study of 280 Cases

EZZ ELDIN KORASHI, M.D.

The Department of Surgery, Hadi Clinic, Kuwait.

Abstract

A modified method of excision of pilonidal sinus with primary closure was used in 280 patients with one year follow-up. The technique involves prophylactic piperacillin, limited excision with 1 cm skin safety margin and the use of interrupted and subcuticular polypropylene sutures with Radivac drainage. The mean healing time was 15 days. Primary healing failure occurred in 1.42% of patients and recurrence at one year occurred in 4.64%. The mean time to return to work was 16 days. Ten out of 13 recurrent cases were reaching caudally to the external anal sphincter and were managed by an open method.

Introduction

PILONIDAL disease, although a self limiting minor condition, is a cause of considerable morbidity and economic trouble to the patient. Considerable controversy regarding the ideal management continues [1] and widely different results are reported for each method of treatment [1, 2, 3]. The objective of the present work is to assess the effectiveness of a treatment protocol performed in a hospital, Hadi Clinic, Kuwait, where the prevalence of

the disease is high, constituting 15% of surgical admissions every year.

The protocol essentially involves prophylactic antibiotics, limited excision with primary closure under general anaesthesia using both interrupted sutures and subcuticular sutures with Radivac drainage and preplanned regular follow-up.

Patients and Methods

The clinical material of the present study included 280 patients with sacrococ-

cygeal pilonidal sinus who were operated upon in Hadi Clinic, Kuwait between July 1991 and July 1992. The patients enrolled into the study were suffering from recurrent episodes of purulent and serosanguinous discharge. The patients with pilonidal abscesses, silent pilonidal sinuses or sinuses outside the sacrococcygeal area were excluded from the study.

Operative technique :

Thirty minutes before induction of general anaesthesia 4 gm piperacillin i.v. are given.

The patients are operated in the prone Jack-Knife position. After shaving and skin preparation with Chlorhexidine, the sinus is excised down to sacral fascia taking care to preserve as much skin of the buttock as possible, 1 cm safety margin from the sinus opening is taken as maximum width of the ellipse to be removed (Figs. 1, 2). Hemostasis is secured by diathermy and the raw area is washed with 10% povidone iodine. Interrupted Prolene "O" sutures, with the needle piercing a small Lahey-swab before entering the skin and another swab after emerging from the opposite side are used. The ends are left united (Fig. 3). Then subcuticular skin closure using 3/0 Prolene suture is used after insertion of a Radivac drain.

The ends of the interrupted sutures are tied so that the Lahey swabs intervene between the knots and the skin. Oral fluids are allowed 6 Hrs after recovery and the

patients are discharged after 2-3 days when the output of the drain becomes minimal. The patients are given previously prepared written instructions on local hygiene and avoidance of local trauma in the first 3 months after operation.

Weekly follow-up is conducted in the outpatient clinic and the sutures are removed 14-20 days after operation. Monthly follow-up is conducted by phone and follow-up after one year marks the end-point of the study for each patient.

Unsatisfactory outcome was reported as primary wound failure (infection or dehescence in the first 3 weeks post-operatively) or recurrence when the same outcome is observed till one year follow-up.

Documentation for the following parameters was obtained:

1. Operating time
2. Hospital stay
3. Primary wound failure
4. Recurrence
5. Time off work.

Results

The mean age of the patients in the present study was 21.51 ± 15.64 (mean \pm s.e.m) years. Nine female patients were encountered making up a female to male ratio of 1:31.1. Fig. (4) shows that the age group (20-24 years) had a peak incidence of pilonidal sinus (29.3%). With a decreasing incidence in the younger and older age groups. The mean operating time



Fig. (1): Limited excision of pilonidal sinus. A narrow ellipse of the skin is excised.



Fig. (2): The raw area after limited excision.



Fig. (3): Interrupted polypropylene sutures piercing Lahey swabs on either side of the skin.

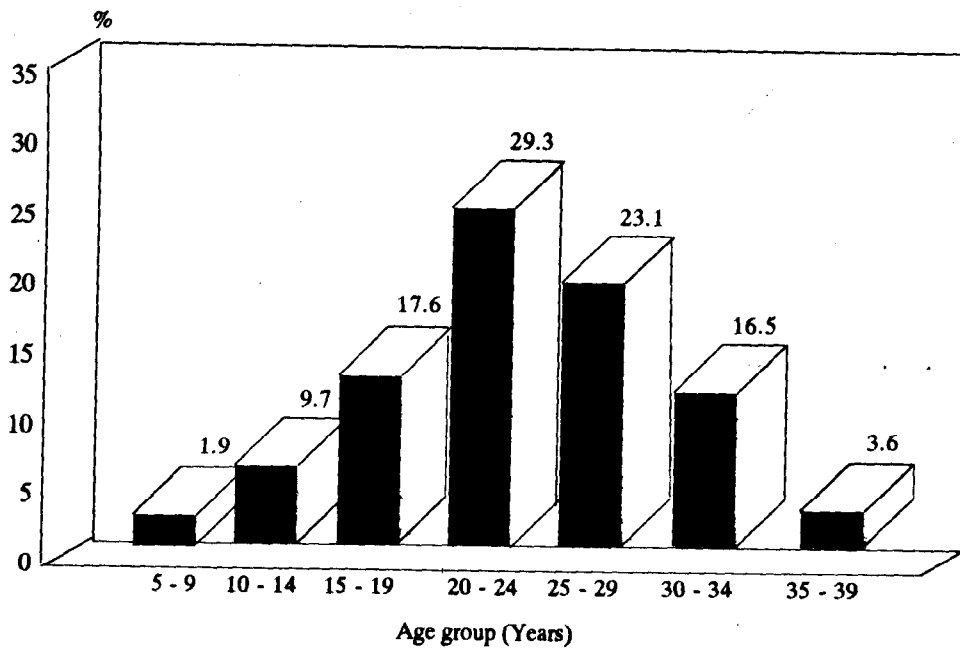


Fig. (4): Age distribution of the present study.

was 34.28 ± 0.894 (mean \pm s.e.m) minutes, with a range of 25-45 minutes. The mean stay in hospital was 3.25 ± 5.086 days (mean \pm s.e.m) ranging from 3 to 6 days.

The mean healing time as deduced from the total number of days required for healing divided by the total number of patients was 15.642 ± 24.49 days (mean \pm s.e.m). Primary wound failure with dehescence of part of the suture line and secondary infection occurred in 4 patients (1.42%). The patients were managed by drainage of infection and adopting an open method of treatment. In four patients healing was complete in 3 weeks on regular dressings.

Recurrence of the sinus occurred in 13 patients (4.64%). Recurrence started by the appearance of a sinus in the lowest part of the scar in close proximity of the anal canal regardless of the site of the original sinus. Analysis of the data of the recurrent cases revealed that 3 patients did not regularly follow the written instructions stressing local hygiene and regular depilation. In the other 10 patients, the granulation tissue of the original sinus was reaching caudally till the fibres of the external anal sphincter.

The mean time to return to work was 16.78 ± 26.284 days (mean \pm s.e.m).

Discussion

The multiplicity of the available treatments for pilonidal disease testify that no single method is ideal [2, 4]. Working in the Gulf area where the disease is prevalent encouraged us to follow a modified method of excision with primary closure hoping to achieve the merits of the procedure in the shorter healing time and earlier return to work trying to overcome the major drawback of high incidence of recurrence [5]. Our technique involves "limited" excision of a few mms of skin around the sinus opening thus the minimum ellipse of skin is excised preserving as much skin as possible. It is different from the "radical" excisions described before [6, 7].

The skin closure by continuous subcuticular 3/0 polypropylene sutures has certain advantages; it affords edge-to-edge coaptation in spite of early ambulation and constitutes a definitely less painful method of closure as reported elsewhere [8]. The risk of wound infection in subcuticular closure using synthetic monofilament sutures is no more than that involved in using interrupted or continuous simple or mattress sutures [9]. Tying the interrupted sutures on small Lahey swabs intervening between the knots and the skin (Fig 3) affords protection of the skin against any pressure of the knots and allows good inspection of the wound in the follow-up periods.

In the present study as well as in many

others the mean age of the patients was similar, affecting the active working sector of the people [4, 10]. A method of treatment followed by earlier return to work presents obvious economic advantages. Compared to all other methods of treatment excision with primary closure affords the shortest time to return to work [2]. The time off work in the present study, 16.78 ± 26.28 days (mean \pm s.e.m) compares favourably with that reported by Notaras [11]; 6 weeks and Cherry [12], 21.7 days.

The mean healing time in the present study; 15.64 ± 24.49 days (mean \pm s.e.m) approaches that reported by Zimmermann [13] and Kronberg [5]; 14 days whereas shorter healing times are reported by McLaren [6]; 11 days and Bentivegna [14]; 10 days. All these authors report on much fewer patients than in the present study. Relatively short healing times are reported by using the rhomboid flap [15, 16] whereas the classical open method of treatment is usually followed by a much longer healing time as well as time off work [2].

The percentage of failed primary healing in the present study (1.42%) is lower than that reported by Notaras [11]; 30% and Kam [17]; 6%. Zimmermann [13] reported no failures of primary healing after excision with primary closure.

The recurrence rate at one year (4.64%) is less than that reported by Notaras [11];

9% and Kronberg [5], 25% and more than that reported by Rainsbury and Southam [18]; 1%. In his retrospective analysis of several studies, Allen-Mersh [2] found that the cumulative recurrence rate at one year after primary midline closure was 8%.

We believe that the use of piperacillin as a prophylactic antibiotic against the range of aerobic and anaerobic bacteria that are likely to infect the sinus, the limited skin excision, the use of Radivac drainage and monofilamentous subcuticular and interrupted sutures helped much to lower the recurrence rate in the present study. We stress the importance of encouraging the patients to follow the "written" hygienic advice given to them.

We recommend that patients with sinus tracts extending to the external anal sphincter; 10 patients (3.57%) in our study and 7% in another study [11] be managed by laying the sinus open. Our patients with such sinuses fared well after laying the sinus open and healed in three weeks under regular dressings.

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