

SEMICLOSURE TECHNIQUE FOR TREATMENT OF CHRONIC PILONIDAL SINUS

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ABSTRACT

Objective: To assess the treatment of chronic pilonidal sinus with semi-closure technique in term of effectiveness ,healing time, complications and recurrence rate after surgery.

Design: A prospective clinical study .

Method: A total of 24 patients with chronic pilonidal sinus were operated by excision and semi-closure technique between July 2008 and Jan. 2011 .Detals of surgery, complications and the out come were noted down.

Result: There were 20 males and 4 females in this study(male: female ratio 5:1).Their mean age was 28 years (16-24 years).The mean hospital stay was 2 days (1-3days). The mean healing period was 30 days (range 25-35 days).The mean period off work was 15 days (range 14-25 days). There were no minor complications .No recurrence were noted with a follow up about 12momths.

Conclusion: Semi-closure technique for treatment of pilonidal sinus appears to be a simple , effective procedure with a low morbidity with a lower chance of recurrence.

INTRODUCTION

Pilonidal sinus is a benign disease that often takes a chronic course, causing long term nuisance and disability in young adults¹. It mainly affects the intergluteal furrow². Other areas that are rarely affected includes umbilicus³, interdigital clefts⁴, axillae⁵, neck⁶ and the breast⁷. In dealing with the pathogenesis of pilonidal sinus disease , Karydakos⁸ attributed the hair insertion process to three main factors: the invader, i.e. the loose hair; the force, which causes the insertion; and the vulnerability of the skin to the insertion of hair at the depth of the natal cleft. The insertion of loose hair is now considered the major causative factor in the development of this sinus in the vulnerable skin of the intergluteal cleft aided by risk factors such as obesity, moisture and hairy back, vibratory movements during prolonged sitting and long journeys, negative suction of these loose hair through a small breach in the skin of the

area leading to inflammation and later infection⁸. Males, especially in the age group 16-25 years , are six times more commonly affected than the females¹¹. The treatment of this condition remains controversial even today⁹. The goals of the ideal procedure for the treatment of this disease include reliable wound healing with a low risk of recurrence, a short period of hospitalization, minimal inconvenience to the patient, and low morbidity with few wound-management problems. Treatment should allow the patient to resume normal daily activities as quickly as possible¹⁰.

PATIENTS AND METHODS

Between July 2008 and Jan. 2011, a total of 24 patients under went operations for chronic pilonidal sinuses at the intergluteal furrows by excision and semi-closure technique at Zagazig University Hospitals . The demographic and sinuses data are listed in table (1) and (2) .

Table(1): Demographic and sinuses data.

Parameter Data	No.
No. of patients	24
Male : Female	20:4
Age(years), mean&range	28(16:40)
Primary sinus	18
Recurrent sinus	6

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Table(2): Age distribution

Age group in years	Pilonidal sinus		Total No.(%)
	Primary	Recurrent	
16-20	3	0	3(12.5)
21-25	5	1	6(25)
26-30	5	2	7(29.2)
31-35	4	2	6(25)
36-40	1	1	2(8.3)

Perioperative course

all patients were prepared for operations by routine laboratory investigations and ECG (if needed) and all were given 1 gm. Cephalosporine 1 hour before surgery.

Surgical technique

Under spinal(17pt.),or general anesthesia(7pt.),all patients were placed in prone position.The natal cleft shaved well.An elliptical mark about 5 cm.in length was made around the sinus.I.V.cannula was inserted inside the sinus and methylene blue dye was injected inside the sinus cavity.An elliptical incision was done around the mark,then the whole ellipse containing the the sinus tracts was excised down to the sacrococcygeal fascia(Fig.1,2),then after complete haemostasis the upper half of the wound was closed in two layers.leaving the lower half of the wound without closure as a drain to be closed by granulation tissue(second intention).(Fig.3.4).

Postoperative course

All patients were discharged from the hospital at the second day after surgery after dressing. The patients were seen every two days at the out patients clinic for dressing and follow up. Sutures

in the upper half of the wounds were removed after about two weeks,and the dressing was continued for about one month after surgery.We ask the patients to come to the hospital every three months for about 12 months for follow up.Some patients were interviewed by phone for follow up(3patients).

Results

There were no postoperative deaths, or major complications. The mean .hospital stay was two days(range, 1-3 days).The mean time to return to the work after discharge from the hospital was 15 days(range,14-25 days).Primary healing of the wounds occurred in 22 patients(91,6%)at a mean time 30 days(range.25-35 days).There is failure of wound closure at the lower end of the wound in two cases(8.3%) with a follow up dressing for about 60 days , so in these two cases,wound curettage under local anesthesia was done and repeated dressing was done and the wounds were closed spontaneously within two weeks.There was no recurrence of the sinuses in all patients on a maximum of 12 months follow up .Healing time after the operations are listed in table (3).

Table(3):Healing time after the operations.

Healing time/day	Primary sins (No.)	Recurrent sinus (No.)
25-30	6	—
30-35	7	2
35-40	4	3
More than 40 days	1	1

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Fig. (1): Marking of the site of the sinus



Fig. (2):After Sinus Excision



Fig. (3):Semi closure of the wound



Fig. (4): two weeks after the operation



Fig. (5): four weeks after the operation



Fig. (6): Five weeks after the operation



Fig. (7): three months after the operation



Fig. (8): nine months after the operation

DISCUSSION

A number of techniques are described for treatment of pilonidal sinus disease. Open excision of the sinus is still widely practiced with variable results^{5,11,12,13}. It entails weeks of postoperative care with a prolonged healing period and period off work. The resultant cavity may take an average of 6%^{1,11} to 5%¹⁴. Simple midline closure of intergluteal skin, following excision of the sinus, has been reported with variable success rates. The mean healing time has been 10-18 days but many studies have reported wound problems from 9%^{1,2} to 69%¹⁶ with a recurrence rate of 3.5%¹¹ to 42%¹⁵. In this study the mean healing time was 30 days which is longer time in comparison with the closed technique with a mean healing time 14 days^{10,17}. But this time is shorter in comparison with other techniques like excision and open method. The mean hospital stay was 2 days which is comparable with other series^{17,18}. Kitchen¹⁷ reported early complication like hematoma (5%), wound infections (4%), whereas recurrence was seen in 4% of cases. In another series Akinci¹⁸ reported 7-14% minor complications with recurrence of .9%. In this study no post operative minor complications like infections or hematoma. No recurrent cases have reported after an average of 12 months follow up. Recurrence has been consistently reported low (1-4%)^{8,17} with Karydakos technique even with prolonged follow-up as compared to other treatment modalities especially simple drainage (25%)¹⁹, open excision (0.5-5%)^{11,14}, simple midline closure (3.5-42%)^{11,15}, and Bascom's cleft excision (10%)²⁰. Natal cleft is not completely flattened by any of the above

mentioned techniques, thus accounting for a higher incidence of recurrence. Other refined surgical procedures include plastic flap rotations like V-Y plasty² and limberg flap^{22,23}. Like many others, open excision is still widely practised in our country due to problems of post-operative care and follow-up. In summary, the goal for treatment of pilonidal disease is 2-fold. The first is existing and healing with a low rate of recurrence. The second is minimizing patient inconvenience and morbidity after the surgical procedure and avoiding hospitalization with loss of workdays. The method used to treat the patient should satisfy these goals.

CONCLUSION

Semiclosure technique is a simple, procedure. The results favor this technique in the treatment of sacrococcygeal pilonidal sinus. Lower chances of recurrence, shorter hospital stay, and time off from work with low morbidity.

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علاج الناصور العصعصي المزمن باستئصال الناصور والغلق الجزئي للجرح .

لقد اثبتت الدراسات ان نتائج علاج الناصور العصعصي بالعمليات المختلفه متفاوت النتائج وهناك طرق عده لعمليات استئصال الناصور العصعصي مثل الاستئصال وغلق الجرح بالكامل او استخدام السدائل المختلفه مثل السديله المعينه او بطريقه كريدكس . وتهدف هذه الدراسه الي تقييم عمليه استئصال الناصور العصعصي وغلق الجرح جزئيا . وقد اجريت هذه الدراسه علي ٢٤ مريضا يعانون من ناصور عصعصي مزمن في الفتره من يوليو ٢٠٠٨ حتي يناير ٢٠١١ بمستشفيات جامعه الزقازيق . وقد اظهرت النتائج عدم وجود التهابات بالجرح او تجمع مصلي وعدم وجود اي ارتجاع للناصور بعد عمل متابعه للمرضي حوالي اثني عشر شهرا بعد العمليه لكل مريض . وحدث وجود تأخر في غلق الجرح في حالتين فقط تم التعامل معهما ٨% (٣% وقد اثبتت هذه الدراسه ان علاج الناصور العصعصي علي طريقه الاستئصال والغلق الجزئي للجرح هي طريقه جيده وبسيطة للتعامل مع الناصور العصعصي المزمن .