

Comparison of Wide Open Excision and Karydakis Procedure for Pilonidal Sinus Disease

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ABSTRACT

Objective To compare the outcomes of wide open excision and Karydakis procedure in terms of postoperative complications, hospital stay and recurrence rate.

Study design Comparative interventional study.

Place & Duration of study Surgical unit Hayatabad Medical Complex Peshawar, from April 2006 to March 2009.

Methodology A total of 40 patients with pilonidal sinus were admitted through OPD. Patients with osteomyelitis of sacrum, fistula with anal canal or rectum, and those who were lost during follow up, were excluded. Patients were divided into 2 groups. In group A (20 patients) wide open excision was done whereas in group B (20 patients) Karydakis procedure performed. Patients were followed up in OPD for 6 months and postoperative outcomes were recorded.

Results Out of 40 patients, 36 (90%) were males and 4 (10%) females (M:F = 9:1). Age range was 15 to 40 year with mean age of 26.5 year \pm 2.4 year. In group A, postoperative complications encountered were pain (75%), bleeding (10%), wound infection (25%), scar pain (30%) and numbness (15%) at the site of surgery. While in group B, postoperative morbidity included pain (25%), hematoma/seroma formation (10%), wound infection (15%), scar pain (15%), numbness (20%) and wound dehiscence (10%). Average hospital stay was 5.6 days in group A and 2.5 days in group B. Recurrence rate was 25% following wide open excision and 5% after Karydakis procedure.

Conclusion Karydakis procedure is better than wide open excision in terms of less postoperative complications, reduced hospital stay and low recurrence rate.

Key words Pilonidal sinus, wide open excision, Karydakis procedure.

INTRODUCTION:

Pilonidal sinus disease is a disabling nuisance in young adults, which can result in abscess or draining sinus tracts.¹ It is likely to be an acquired condition resulting from hair penetration beneath the skin; its incidence is 26/100,000 with male preponderance especially in the third decade of life.^{2,3}

Despite being managed surgically for a century, an effective method of its management is still debatable.¹

The various surgical approaches for chronic pilonidal sinus disease include curettage of the tract, incision and laying open, wide excision with healing by secondary intension, wide excision with closure of the defect by full thickness plasty techniques (Z plasty, VY plasty, rhomboid or myocutaneous advancement flaps), marsupialization of the skin edges after excision, phenol injection (phenolization), cryosurgery, electrocauterization and procedures using Nd-YAG or ruby lasers. Asymmetric or oblique closure techniques for pilonidal sinus repair give a high wound infection rate, high recurrence rate, poor cosmetic results with delayed healing.^{4,5} On the other hand Karydakis (primary closure technique) describes removal of all deep inflamed tissue and fixation of the base of a mobilized asymmetric thick flap to the

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sacrococcygeal fascia before skin closure.⁶⁻⁸

The purpose of current study was to compare the results of wide open excision and Karydakias procedure in terms of postoperative complications, hospital stay and recurrence rate in our setup.

METHODOLOGY:

This comparative interventional study of 40 patients was carried out at surgical unit, Hayatabad Medical Complex Peshawar, from April 2006 to March 2009 after approval of the topic from the hospital ethical committee. These patients were admitted through OPD as elective cases after confirming their diagnosis by taking a detailed history, digital rectal examination, proctoscopy and sinogram. Patients with osteomyelitis of sacrum, fistula communicating with the anal canal/rectum, and those who were lost to follow up, were excluded. Patients were randomly divided into two groups having equal study population. Baseline investigations like full blood count, blood urea/sugar and hepatitis screening were performed in all patients. X ray chest and ECG were done in selected cases to assess their fitness for general anesthesia. An informed consent was taken for the type of surgery.

Group A patients underwent wide open excision while group B patients were subjected to Karydakias procedure. Surgery was performed in prone jack knife position. After surgery patients were looked after in ward for postoperative complications like pain and bleeding and all findings were recorded on a proforma. Intravenous antibiotic prophylaxis against gram positive, gram negative and anaerobes were given to all patients. Patients in group A were sent home on 3rd post operative day with the instructions of daily sitz bath, dressing, oral antibiotics and analgesics. Postoperatively group B patients were nursed in lateral position to avoid shearing of the advancement flap. Most of them were discharged from hospital on 2nd postoperative day after removing the suction drain. They were advised to take the stitches out on 10th postoperative day. All the patients were followed at 2 weeks, 2 months and 6 months after surgery. At each visit, wound was examined and positive findings were noted. Data was analyzed through SPSS version 11.0, Chi square test was applied and P value was calculated. A p value less than 0.05 was considered significant.

RESULTS:

In this study of 40 patients 36 (90%) were males and 04 (10%) females (M:F = 9:1), with age range of 15-40 year a mean age of 26.5 year \pm 2.4.

In the current study, the most common presentations included multiple sinuses in 85% (n=34) patients, single sinus opening in 15% (n=6) and blood stained or purulent discharge in 25% (n=10) patients. Four (10%) patients had past history of abscess in the sacrococcygeal region.

Postoperative morbidity in our series included pain in 75% (n=15) patients in group A and 25% (n=5) in group B. This pain was of mild to moderate severity and responded to extra injectable analgesics. Patients in group B were pain free after 2 weeks while group A patients had off and on pain for 07 weeks after surgery. Two (10%) patients in group A had minor postoperative bleeding in the form of ooze and stopped with pressure packing. Two patients (10%) in group B developed small postoperative haematoma/seroma but no intervention was needed and it resolved with conservative treatment.

Minor superficial wound infection occurred in 05 (25%) patients in group A and 03 (15%) patients in group B. It was managed with local antiseptic dressings and oral antibiotics. During follow up 06 (30%) patients in group A and 3 (15%) in group B presented with scar pain. Patients were counseled about the benign nature of this pain and treatment was given in the form of oral/topical analgesics. Numbness at the operation site was also noted in both groups of patients. Two (10%) patients in group B developed wound dehiscence. They were managed by cleaning and dressing the wounds in operation theatre. Wounds were left open and secondary suturing was done after control of infection with local antiseptic dressings and oral antibiotics. In this series, the average hospital stay was 5.6 days in group A and 2.5 days in group B. wound healing was completed in 7.5 weeks in group A and 03 weeks in group B patients.

At the end of 6 months follow up, 05 (25%) patients in group A and 01 (5%) patient in group B developed recurrence. Table 1 summarizes the results.

DISCUSSION:

Sacrococcygeal pilonidal sinus disease apparently seems a simple condition to treat but it may result into unexpected healing problems and unexplained recurrences.⁴ There is much controversy about the open and closed operative treatments of pilonidal sinus regarding their postoperative recurrence rate and duration of work capacity.⁹ Whatever surgical technique is used in the treatment of pilonidal sinus disease, satisfying results may be obtained in specialized centres focusing on one technique.¹⁰⁻¹³

However in a general surgical clinic with many surgeons in training, pilonidal sinus disease surgery performed in different ways, the results may be inferior.⁵

In our study the male preponderance is noted like other series, however in few series the difference is small.¹³⁻¹⁷ More than half (55%) of our patients were in their 3rd decade of life which was also in accordance with other studies.⁴ The different presenting features of chronic pilonidal sinus disease in this series are comparable to other studies.^{18,19}

In this series, 75% (n=15) patients experienced postoperative pain after wide open excision and 25% (n=5) following Karydakis procedure (p-value 0.01). Our study is supported by an almost similar study carried out by Al Jaber et al.²⁰ This pain was of mild to moderate severity and subsided completely within 2 weeks while in case of wide open excision, it took almost 5-7 weeks to settle. Postoperative bleeding was insignificant in both groups (p-value 0.08). Two (10%) patients developed small haematoma/seroma beneath the skin flap (p-value 0.08) but it did not require any intervention and resolved on conservative treatment.²⁰

The reported incidence of wound infection in open wide excision of pilonidal sinus is 1.8 to 30% where as it ranged between 3.8% and 14% with Karydakis procedure.¹⁶⁻²³ In our series wound infection was noted in 25% cases in group A and 15% in group B which is comparable to the reported range however it was statistically insignificant (p-value 0.06).

Scar pain was recorded in 30% patients in group A and 15% in group B (p-value 0.04). These figures are comparable to 17.39% and 13.63% respectively reported by Malik et al⁴ however in his study the

scar pain was statistically insignificant. Similarly 15% patients in group A and 20% in group B had numbness at surgery site (p-value 0.07) which is slightly higher than 9.09% for numbness in case of Karydakis procedure while Malik AM et al did not report even a single case of numbness following wide open excision.⁴ Numbness occurs as a result of damage to the cutaneous nerves during dissection. Patients were reassured about the benign nature of these symptoms. Wound dehiscence was also statistically insignificant in present series.

In our study the average hospital stay for wide open excision was 5.6 days and for Karydakis procedure it was 2.5 days. In literature the mean hospital stay mentioned is 6.74 days,⁴ 4 days,¹⁹ 2 day²⁰ and 2.6 days²⁴ in different studies. In the current study, wound healing was significantly better in group B as compared to group A. similar results were given by other studies.⁹⁻¹⁶ Recurrence was significantly higher in group A patients as compared to group B. Recurrence rate mentioned in different studies ranged between 0 and 17% for open wide excision whereas it was less than 5% for Karydakis procedure.¹⁶⁻²⁵

CONCLUSION:

Karydakis procedure is a better surgical option in terms of low complication rate, reduced hospital stay and low recurrence rate for chronic pilonidal sinus disease.

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Table I: Postoperative Outcomes Of Two Procedures (N=40)

Variables	Group A	Group B	p value
Pain	15 (75%)	05 (25%)	0.01
Bleeding	02 (10%)	00	0.08
Hematoma / seroma	00	02 (10%)	0.08
Wound infection	05 (25%)	03 (15%)	0.06
Scar pain	06 (30%)	03 (15%)	0.04
Numbness	03 (15%)	04 (20%)	0.07
Wound dehiscence	00	02 (10%)	0.08
Hospital stay	5.6 days	2.5 days	0.04
Healing time	7.5 weeks	03 weeks	0.02
Recurrence	05 (25%)	01 (5%)	0.04

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