Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.comdoi: 10.21276/jamdsr

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Article

Assessment of Surgical Management of Patients Undergo Pilonidal Sinus Disease: A Hospital Based Study

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***ABSTRACT*:**

Background: Pilonidal disease is a common and usually minor disease. Although wide excisional surgery has been common practice, there are more simple alternatives. The management of pilonidal disease depends on its presentation and ranges from simple incision and drainage to a wide excision with extensive reconstructive procedures. Hence, we planned the present study to analyze surgical management of pilonidal sinus disease patients. **Materials and methods:** We planned the present study to assess patients undergoing surgical management for PSD. A total of 100 patients with PSD were included in the present study that underwent surgical treatment for the same. Complete demographic and clinical details of all the patients were recorded. We carried out complete hematological and biochemical investigations of all the patients before the starting of the study. All the patients underwent surgical treatment for PSD under the hands of skilled and experienced surgeons. Complete postoperative follow-up of all patients were done. All the results were analyzed by SPSS software. **Results:** The surgical procedures performed in the present study included marsupialization, unroofing, primary closure and limber flap transposition. Marsupialization was the most common procedure, carried out in 45 percent of the patients. Infection was the most commonly encountered postoperative complication, found to be present in 10 percent of the patient population. It was followed by hematoma formation which was found to be present in 4 percent of the patient population. **Conclusion:** Surgeons should be aware of pros and cons of all the surgical techniques while handing patients with PSD.

Keywords: Pilonidal sinus disease, Surgical, Treatment

Received: 18 October 2017 Revised: 16 November 2017 Accepted: 28 November 2017

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This article may be cited as: Bugalia RL. Assessment of Surgical Management of Patients Undergo Pilonidal Sinus Disease: A Hospital Based Study. J Adv Med Dent Scie Res 2018;6(4):69-72.

INTRODUCTION:

Pilonidal sinus disease (PSD), diagnosed by the penetration of hair follicles into one or more sinus walls, attacks younger subjects more frequently and chronically develops with acute and subacute instances of infection.[1, 2] Frequently seen in the midline of the sacrococcygeal region, it limits the patient's lifestyle and results in loss of productive power. For treatment, various noninvasive and surgical methods (simple incision and drainage, lying open, marsupialization, excision and primary closure, or rhomboid excision and Limberg flap) have been performed. Despite these methods, the disease often leads to postoperative complications and recurrence. Male gender, obesity, smoking, family tendency, poor body hygiene, sinus size, and the surgical procedures performed have been confirmed in a number of studies as primary risk factors for postoperative complications and recurrence.[3- 5]

Pilonidal disease is a common and usually minor disease. Although wide excisional surgery has been common practice, there are more simple alternatives. The management of pilonidal disease depends on its presentation and ranges from simple incision and drainage to a wide excision with extensive reconstructive procedures. There is no clinical consensus on the optimal management of the pilonidal sinus.[6- 8] Hence, we planned the present study to analyze surgical management of pilonidal sinus disease patients.

MATERIALS AND METHODS:

We planned the present study in the department of general surgery of Dhanwantri Hospital, Barmer, Rajasthan, and it included evaluation of patients undergoing surgical management for PSD. We obtained ethical clearance from institutional ethical committee along with written consent

after explaining in detail the entire research protocol. A total of 100 patients with PSD were included in the present study who underwent surgical treatment for the same. Exclusion criteria for the present study included:

- Patients with presence of any other comorbid condition,
- Patients with any known drug allergy,
- Patients less than 20 years of age

Complete demographic and clinical details of all the patients were recorded. We carried out complete hematological and biochemical investigations of all the patients before the starting of the study. All the patients underwent surgical treatment for PSD under the hands of skilled and experienced surgeons. Complete postoperative follow-up of all patients were done. All the results were analyzed by SPSS software. Student t test was used for assessment of level of significance. P- value of less than 0.05 was taken as significant.

RESULTS:

We analyzed a total of 100 patients with PSD. Among these 100 patients, 40 were females while the remaining 60 were males. Mean age of the patients of the present study was 40.2 years. The surgical procedures performed in the present study included marsupialization, unroofing, primary closure and limber flap transposition. Marsupialization was the most common procedure, carried out in 45 percent of the patients. Infection was the most commonly encountered postoperative complication, found to be present in 10 percent of the patient population. It was followed by hematoma formation which was found to be present in 4 percent of the patient population.

Table 1: Demographic details of the patients

Parameter	Value
Mean age (years)	40.2
Males	60
Females	40
Total	100

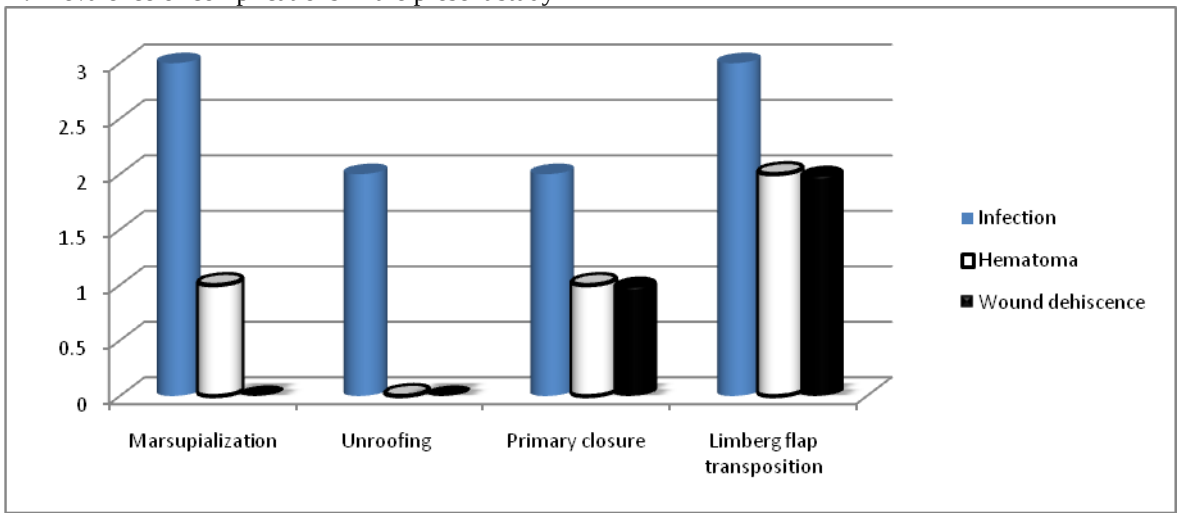
Table 2: Details of surgical procedures performed

Methods	Number of patients	Mean hospitalization time (days)
Marsupialization	45	2.0
Unroofing	15	3.4
Primary closure	18	1.8
Limberg flap transposition	22	4.6
Total	100	2.8

Table 3: Various complications observed the present study

Methods	Infection	Hematoma	Wound dehiscence
Marsupialization	3	1	0
Unroofing	2	0	0
Primary closure	2	1	1
Limberg flap transposition	3	2	2

Graph 1: Prevalence of complications in the present study



DISCUSSION:

In the present study, we evaluated a total of 100 patients with PSD. The surgical procedures performed in the present study included marsupialization, unroofing, primary closure and limber flap transposition. Marsupialization was the most common procedure, carried out in 45 percent of the patients. Infection was the most commonly encountered postoperative complication, found to be present in 10 percent of the patient population. Varnalidis I et al compared the methods used by our clinic and determine the outcomes in relation to healing, hospitalization time and recurrence. They have studied all the cases of patients with pilonidal sinus that were treated surgically in our clinic from January 1, 1997 to December 31, 1999. A total of 111 patients were treated of whom 92 (82,8%) were men and 19 (17,2%) were women. Ages ranged from16 to 65 years with an average age of about 25,1 years. Of the 111 patients, 63 were treated with marsupialization and the remaining 48 were treated by excision (29 with open excision and 19 with the primary suture technique). One hundred and two (91,9%) patients were discharged from the hospital after the surgical procedure, while the remaining 9 patients were hospitalized for 24 hours. The healing time for marsupialization was 27,3 days, the primary suture technique was 11,7 days and the open excision method took 46,4 days. Recurrence was observed in 16 patients (14,4%). Recurrence appeared in 4 (6,35%) of the 63 patients subjected to marsupialization, 1 of the 29 patients subjected to open incision, and 11 (57,8%) of the 19 patients subjected to primary closure. In the absence of inflammation and/or recurrence, marsupialization is the surgical method of choice as it has a low percentage of recurrence and an acceptably short healing period. In apparently large, inflamed and recurrent situations, open excision is preferred.[9]

Rashidian N et al compared the postoperative outcomes after three different surgical methods of wound repair in patients with sacrococcygeal pilonidal sinus. Patients were divided randomly into three different groups. All of the patients underwent a wide excision of their pilonidal sinus; the subsequent surgical wound was left open in the first group (lay open group) whereas it was repaired with a simple primary closure and a rhomboid flap in the second and third groups. Variables including length of hospitalisation, time for wound healing, time off work, recurrence and surgical complications were evaluated. A total of 60 patients with an average age of 27.61 years were studied, including 47 (78.3%) men and 13 (21.7%) women. Postoperative hospitalisation time was significantly shorter in patients who were treated using the simple primary closure method than those with the rhomboid flaps. However, there were no differences in terms of postoperative hospitalisation time between the lay open and simple primary groups or the lay open and rhomboid groups. The period of absence from work was significantly shorter in patients who were managed by a simple primary closure or rhomboid flap technique comparing to those whose wound was left open ($p<0.05$). Complete wound healing had a significantly shorter course in the rhomboid flap and the simple primary closure techniques compared to those within the lay open group. In terms of complications, postoperative infection and haemorrhage were more common in the lay open group than in the other two. Recurrence was about 5% in patients who were treated with the lay open method in an 18-month follow-up period; however, no recurrence was observed in the other two groups. Considering the earlier wound healing period, less days absent from work, lower complication levels and recurrence rates, the simple primary closure or rhomboid flap techniques appear to be better options to treat the subsequent wound after a wide excision of pilonidal sinus when compared to the lay open method.[10]Aydede H et al compared three methods that are still used for the surgical treatment of pilonidal disease: marsupialization, primary midline closure and skin flaps. One hundred and one out of a total of 203 pilonidal disease patients underwent excision and marsupialization, while 82 patients had excision and primary closure and the remaining 20 were treated with excision and skin flaps. The minimum and maximum follow-up periods for the aforementioned surgical methods were 4 and 5 years, respectively. All patients were reviewed for in-hospital stay, return to work, wound infection and recurrence rates. Student's t-test and Fisher's exact test were used for statistical analysis. Average hospital stays for marsupialization, primary closure and skin flaps were 2.84 +/- 0.13, 2.62 +/- 0.12 and 5.95 +/- 0.52 days, respectively. Hospital stay for the skin flaps method was longer than that for the other two methods. The average time to return to work after marsupialization was 5.42 +/- 0.08 weeks; but the time needed to return to work after undergoing the primary closure or the skin flaps methods was much shorter: 2.15 +/- 0.05 and 2.90 +/- 0.20 weeks, respectively ($P < 0.001$). There was no difference in wound infection rate ($P = 1.000$) or recurrence rates. The fact that there were no differences in terms of wound infection or recurrence rates between the three groups, and the relatively shorter period for returning to work, emphasize the usefulness of the excision and repair techniques in the surgical treatment of pilonidal disease.[11]

CONCLUSION:

Under the light of above mentioned data, the authors conclude that surgeons should be aware of pros and cons of all the surgical techniques while handing patients with PSD. However; future studies are recommended for better exploration of this field of surgery.

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Source of support: Nil **Conflict of interest:** None declared