

Clinical Study of Management of Pilonidal Sinus

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Abstract

Introduction: Pilonidal sinus is a common chronic, benign disease of young adulthood. Pilonidal disease is an infection under the skin in the gluteal cleft. 'Pilonidal' mean tuft of hair. Known risk factors include family history, local trauma, sedentary occupation and obesity. The management of pilonidal sinus has remained controversial. *Aims and Objectives:* To study the clinical presentation, predisposing factors, of pilonidal sinus in the study sample, and compare the effectiveness of two surgical treatment methods, namely, excision of sinus tracts with primary closure, and the excision of the sinus with closure of the defect with limberg flap, in terms of the duration of hospital stay, post operative wound infection and recurrence. *Methodology:* All patients presenting with the Pilonidal sinus to Victoria hospital were admitted, and the demographic data like their age, sex, occupation etc were recorded. The patients were divided in to two groups, one group of 35 patients, were treated by excision of sinus tract and primary closure of the resulting defect. Another group of 35 subjects were treated by excision of sinus tract and Limberg Flap closure. The study subjects in both the groups were followed up and data regarding duration of hospital stay, the post operative wound infection, and the recurrence were collected and analyzed. *Results:* A total of 40 patients [57.14%] out of 70 patients belonged to age group between 21-30yrs. Disease was more common among male(85.71%) than females(14.28%). Pilonidal sinus was found to

be common among Drivers (42.85%). 35 pateints underwent excision and primary closure while remaining 35 underwent excision of sinus tract and Limberg flap repair of the defect. Recurrence after primary closure was 25.71% in our study and 5.71% after Limberg flap. Hence Limberg Flap closure of the defect following excision was a better procedure than Primary Closure.

Keywords: Pilonidal Sinus; Primary Closure; Limberg Flap.

Introduction

Pilonidal disease is a very common condition that most often arises in the hair follicles of the sacrococcygeal area [1]. During the Second World War, pilonidal disease very commonly appeared in jeep drivers, leading to the disease being known as



Photograph 1: Sacrococcygeal Pilonidal Sinus Disease

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“jeep disease” [2].

It is more common in males than in females. It is mostly seen in the sacrococcygeal region [3].

The treatment of pilonidal disease involves early medical evaluation in order to minimize pain and discomfort. Several techniques such as cryosurgery, Z-plasty procedure, lancing under local anesthesia, vacuum assisted closure, excision with secondary healing, excision with primary closure, and flap surgeries have been suggested for treatment of Pilonidal sinus [4,5].

In the year 2008, Mahdy described that controversy still exists regarding the best surgical technique for the treatment of pilonidal disease in terms of minimizing disease recurrence and patient discomfort [6].

In the year 2009 Aslam et al. described that Pilonidal sinus disease has been treated for a long time with conventional open excision technique. The rhomboid flap of Limberg is a transposition flap that has been recommended and used for treatment of this condition [7].

Methodology

Source of Data

This prospective study included 70 patients presenting with pilonidal sinus who were admitted and treated in all surgical units of Victoria hospital, Bangalore, over a period of one and a half years, between August 1, 2015 to January 31, 2017.

Inclusion Criteria

All patients who presented to Victoria Hospital, BMCRI, Bangalore, with Pilonidal Sinus and were admitted there.

Exclusion Criteria

- Patients Unfit for surgery/ having uncontrolled co morbidities like diabetes mellitus.
- Patients having spinal deformities
- Patients of Paediatric Age Group.
- Patients with Recurrent and purulent discharging sinuses.

Methodology

The study subjects were divided in to two groups and were treated by either primary closure after excision of sinus tract or limberg flap closure of the

defect after excision of sinus tract as per the details given below.

Excision and Primary Closure

Patients were placed in jack knife position with buttocks widely separated, operative site cleaned and draped. Under aseptic precautions methylene blue was injected to stain all the sinus tract and the same were excised through an elliptical incision to include over lying skin and subcutaneous tissue. Primary closure of the elliptical defect was done leaving a drain. The drain was removed when the output was less than 20 ml in 24 hours. Sutures were removed after 10 days and were asked to return to normal activity. They were reviewed periodically for surgical site infection and recurrence of the sinus

Limberg Flap Repair

Under aseptic precautions, after placing patient in Jack-knife position and buttock strapped wide apart for adequate exposure of gluteal cleft, area painted and draped. Rhomboid incision was made to include all the sinus tract with the overlying skin, Incision deepened up to pre sacral fascia and tissue excised leaving behind a rhomboid defect. The short axis of the Rhomboid Incision extended and a rectangular fascio cutaneous flap created. The same was transposed over the rhomboid defect in sacrococcygeal area. Drain placed and subcutaneous tissue was approximated using vicryl, skin closed using ethilon. Drain removed once output <20ml/ after 48 hours. Patient was advised to return to normal activities after suture removal/ after about 10 days. Patients were followed up for 8 weeks and advised about hygiene and regular shaving during the follow up.

Results

The study sample included 70 patients with pilonidal sinus. Among these 70 patients, 60 were Men and 10 were women accounting for 85.71% and 14.28% respectively [Table 2].

Age group of these patients ranged between 20 to 50 years and maximum number of patients were in the age group 20 yrs to 30 yrs. (57.14%). Hence Pilonidal Sinus was found to be common among young adult male in our study and the maximum number of patients were drivers by occupation. [Table 1,3].

Patient who presented with infection were treated

by incision and drainage, Antibiotics and Analgesics, followed by surgery once infection subsided.

Of the 70 patients, 35 were treated by Excision and Primary closure, while the remaining 35 underwent Limberg Flap Repair. 36 patients were discharged three days after the procedure and 34 patients, after 4 days.

Wound Infection occurred in 5 [14.28%] out of 35 patients who underwent Excision and primary closure and [8.57%] of 35 patients who underwent

Limberg Flap Repair were infected [Table 5,6].

Most patients recovered completely by 6 weeks. Recurrence was noted on follow up for 6 weeks. Nine cases [25.71%] out of 35 who underwent Excision and Primary closure showed recurrence of sinus tracts. Two [5.71%] out of 35 cases who underwent Limberg Flap repair showed recurrence of Pilonidal sinus during follow up period. Recurrence was attributed to poor hygiene and improper shaving [Table 7].

Table 1: Distribution of cases according to age (n=70)

Age	No. of Cases	Percentage
<20	8	11.42%
20-30	40	57.14%
>30	22	31.42%
Total	70	100%

Table 2: Gender-wise distribution of cases (n=70)

Sex	No. of Cases	Percentage
Male	60	85.71%
Female	10	14.28%
Total	70	100%

Table 3: Distribution of cases based on occupation (n=70)

Occupation	Total Cases	Percentage
Driver	30	42.85%
Farmer	12	17.14%
Shopkeeper	12	17.14%
Others	6	8.57%
Total	70	100%

Table 4: Distribution of cases based on hospital stay (n=70)

Hospital Stay	Excision and Primary Closure	Limberg Flap	Total Cases
3 Days	10	26	36
4 Days	25	9	34
Total	35	35	70

Table 5: Table showing infected cases in the study (n=70)

Type of closure	Infection	Percent
Excision and primary closure	5	14.28%
Excision and Limberg flap	3	8.57%

Table 6: Type of discharge (n=70)

Discharge	Primary Closure	Limberg Flap
Serous	30	32
Purulent	5	3

Table 7: Table showing recurrence (n=70)

Surgical technique	Recurrence	Percent
Excision and Primary closure	9	25.71%
Excision and Limberg flap closure	2	5.71%

Discussion

Sacrococcygeal pilonidal sinus disease (PSD) is a common condition that predominantly affects young adults [8]. Although it is clinically asymptomatic in some cases, PSD may also present as a chronic, complicated disease, characterized by multiple sinus tracts, leading to severe impairment of patient quality of life. The heterogeneous nature of PSD presentation has been associated with the progressive course of pilonidal sinus development [9]. In our study, male were affected more than female accounting for 85.71% and 14.28% respectively.

Pilonidal sinuses are widely accepted to be acquired abnormalities as a result of the drainage of a hair follicle that ruptured in the subcutaneous fat, producing acute or chronic inflammation resulting in an abscess or a tract [10,11,12]. Many different approaches have been put forth ranging from a conservation treatment to an extensive surgical excision for pilonidal diseases [13]. The history of surgical therapy of pilonidal disease now dates back to more than a century. But the management there of still remains debatable even after introduction of many new methods, as also the appreciable modifications in the conventional ones. An ideal therapy for treatment of pilonidal disease should be simple, should inflict minimal pain and needing only a short hospital stay [14].

In our study, 35 patients underwent primary closure and remaining 35 underwent Limberg Flap. 5[14.2%] of 35 patients who underwent Primary closure were infected. While 3[8.57%] of 35 patients who underwent Limberg flap were infected. Duration of Hospital stay for most patients who underwent Limberg Flap was 3 days as opposed to Primary closure where the stay exceeded 4 days [Table 4]. Percentage of recurrence between Primary closure and Limberg Flap were 25.71% and 5.71% respectively. Hence Limberg Flap preferable over primary closure for treatment of Pilonidal sinus in terms of lesser infection rate and low recurrence.

Conclusion

Both Primary closure and Limberg Flap can be used to treat PSD, but Limberg Flap is preferable because of low recurrence rate and low Infective complication rates.

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