



Marsupialization: Salvage Surgery for the Recurrence of Flap Techniques Used in the Treatment of Pilonidal Disease

Gurel Nessar*

Department of General Surgery, Yildirim Beyazit University, Turkey

Abstract

Pilonidal sinus treatment has long been problematic since the optimal management is not established. Flap techniques applied after excision of the disease also do not solve the problem. The main reason for the failure is wound breakdown before complete healing after flap coverage of the defect. When recurrence develops, it becomes more difficult to treat the disease. In this case, marsupialization seems to be a good solution as a method that can be applied quite easily. This article reports the results of the marsupialization technique for the management of failed wound coverage's.

Keywords: Pilonidal disease; Limberg flap; Recurrence; Marsupialization

Introduction

The treatment of the pilonidal disease is surgical with one of the most extensive being excision of the diseased tissue down to the sacral fascia. The closure of the defect is technically challenging and needs to be covered with local flap procedures unless intended to use primary suturing or lay-open method. Limberg flap is the most used technique among those surgeries [1-3]. Unfortunately, flap techniques and the primary suturing have many drawbacks mainly recurrence of the disease [4]. The aim of our study was to highlight the marsupialization technique as a salvage operation for the flap or primary suture recurrences.

Patients and Methods

All patients were placed prone position on the operating table. The operation field is cleaned with meticulous shaving and this is repeated at 4 week intervals until wound healing is complete. After local infiltration of 2% lidocaine with epinephrine, the extend of the fistula tract is assessed by probing with a stilet (Figure 1). Fistulotomy was carried out under the guidance of a grooved director. The skin is preserved and curettage of granulation tissue and debris of the cavity was performed (Figure 2). Meticulous hemostasis was obtained by diathermy or silver nitrate application. The edges of the wound were then marsupialized to fistula bed with 2/0 monofilament absorbable sutures and the wound was packed with gauze (Figure 3). No drains were inserted but broad spectrum antibiotics were used. The patients were discharged on the same postoperative day and the packing replaced every other day. Patient informed consent was obtained for the operation presented in the study. The information of the patients was recorded on the computer in IBM SPSS Statistics Release 24.0.0.0 environment (1989-2016). Student's t test is used for comparison of the mean age between men and women. Certain variables are given as mean \pm standard deviation (median; min-max).

Results

Between 2015-2020, 49 men and 6 women with recurrent pilonidal disease have been treated with marsupialization in the outpatient clinic. The mean age was 29.9 ± 7.3 (median: 30; 19 to 49) for male patients and 25.0 ± 3.7 (median: 24.5; 19 to 29) for females. Most of the recurrent patients have had Limberg type flap coverage after the elliptical excision of the pilonidal sinus (27 patients, 49%). Primary suturing was the second most common technique used for management of the wound (22 patients, 40%). Rotation flap in 3 patients, two modified Limberg and one Dufourmental flap had been used for the treatment (Table 1). The recurrence time from the original operation was 5.2 ± 3.8 years (median: 4, 1 to 20 years). Ten males and three female patients have had more than one operation before. The average marsupialization time was 20 min (range: 15 to 25 min). All patients were able to walk on discharge with minimal pain and discomfort. Wound healing time was four to five weeks. Four male patients in whom healing was seriously delayed were treated successfully by repeated curettage of the granulation tissue. There were no complications or infections since the wound left open. All patients were followed 25 ± 16.5 months (median: 25, 5 to 60 months). No

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*Correspondence:

Gurel Nessar, Department of General Surgery, Yildirim Beyazit University, Muhsin Yazicioglu Caddesi 52/7 Cankaya, 06530 Ankara, Turkey, E-mail: gurelnessar@hotmail.com

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Figure 1: Probing of the recurrent fistula tract with a stylet.



Figure 3: Marsupialization of the wound.



Figure 2: Fistulotomy and curettage of granulation tissue of the cavity is performed without skin excision.

evidence of recurrent disease has been detected after complete wound healing and all patients were satisfied with their results.

Discussion

Surgical treatment of pilonidal disease is a matter of debate since the recurrence rates are still a big problem. Wide local excision necessitates wound coverage with various flap techniques that has a higher chance of infection and other morbidities. In fact, most of the problems were not real recurrence. Wound breakdown after flap coverage of the defect was occurred before complete wound healing had taken place, then subsequent wound infection and discharge ensued. Wide skin excision is not necessary for the treatment since the skin is not involved with the disease.

The author also had described a new flap technique that he predicts will have a low recurrence rate [5]. We found recurrence in a few patients in whom this technique was applied during long

Table 1: Patients' first operation techniques.

Operation type	Number of patients	Percent
Limberg	27	49.1
Primary suture	22	40.0
Rotation	3	5.5
Modified Limberg	2	3.6
Dufourmentel	1	1.8
Total	55	100.0

term follow-up. We realized that less invasive techniques without skin excision have better results, so we have abandoned all kinds of flap surgeries for primary or recurrent cases. Flap techniques must be used with cautiously because of the high recurrence rates.

The marsupialization for pilonidal disease treatment was first described by Buie in 1938 [6]. In his original technique, unroofing of the sinus tract, removal of a portion of the skin and sac wall, and suture of the skin to the edge of the sac was performed. Later on, this technique is modified by Abramson [7,8]. He used the original technique without skin excision. The purpose of his method was to simplify management and to prevent loss of labor between army staff at that time. This simple technique, with good results, was faded over the time. Considering that the more complicated methods used today do not achieve the desired results, it is time to go back simpler techniques like marsupialization.

Conclusion

Marsupialization is the treatment of choice for recurrent flap and primary suturing cases used for pilonidal sinus.

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