



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.e-asianjournalsurgery.com](http://www.e-asianjournalsurgery.com)



ORIGINAL ARTICLE

# Eyedrop-shaped, modified Limberg transposition flap in the treatment of pilonidal sinus disease



Mehmet Zafer Sabuncuoglu <sup>a,\*</sup>, Aylin Sabuncuoglu <sup>b</sup>,  
Ozgur Dandin <sup>c</sup>, Mehmet Fatih Benzin <sup>a</sup>, Girayhan Celik <sup>a</sup>,  
Isa Sozen <sup>d</sup>, Recep Cetin <sup>e</sup>

<sup>a</sup> General Surgery Department, Faculty of Medicine, Suleyman Demirel University, Isparta, Turkey

<sup>b</sup> Isparta State Hospital Anesthesia and Critical Care Unit, Isparta, Turkey

<sup>c</sup> Division of Trauma and Acute Care Surgery, University of Miami Miller School of Medicine, Miami, FL, USA

<sup>d</sup> General Surgery Department, Ankara Numune Education and Research Hospital, Ankara, Turkey

<sup>e</sup> General Surgery Department, Bozyaka Education and Research Hospital, Izmir, Turkey

Received 15 July 2014; received in revised form 6 March 2015; accepted 9 March 2015

Available online 23 April 2015

## KEYWORDS

Limberg flap;  
modified Limberg;  
pilonidal sinus

**Summary** *Background:* Pilonidal sinus disease is an inflammatory disease seen in the intergluteal region, which is a commonly encountered problem in surgical practice that mostly affects young people. The aim of this study is to assess the effectiveness of the modified Limberg flap technique with eyedrop excision in the treatment of pilonidal sinus disease.

*Patients:* The study population consisted of 91 patients with pilonidal disease in the sacro-coccygeal region who underwent operation between June 2010 and December 2012. All cases underwent eyedrop-shaped excision and modified Limberg flap reconstruction.

*Results:* The mean operative time was  $41.2 \pm 6.7$  minutes. All patients were followed up for >8 months, and the mean follow-up period was  $13.1 \pm 3.7$  months. There were three wound dehiscences because of fecal contamination and riding cycle on postoperative Day 5. Seroma and flap echimosi were observed in two and four cases, respectively. Five patients experienced recurrence in this series (4.5%).

*Conclusion:* The results of the present study suggest that use of the eyedrop-shaped modified Limberg flap is associated with a lower maceration and recurrence rate when compared

Conflicts of interest: The authors declare no conflicts of interest.

\* Corresponding author. General Surgery Department, Faculty of Medicine, Suleyman Demirel University, Isparta, Turkey.  
E-mail address: [drmehmetzafer@yahoo.com](mailto:drmehmetzafer@yahoo.com) (M.Z. Sabuncuoglu).

<http://dx.doi.org/10.1016/j.asjsur.2015.03.007>

1015-9584/Copyright © 2015, Asian Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

with the available data on the use of the Limberg flap. Flap necrosis and wound healing was better, and the routine use of drains did not affect the wound-related complications and recurrence rates.

Copyright © 2015, Asian Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

## 1. Introduction

Pilonidal sinus disease (PSD) is a common painful inflammatory disease seen in the intergluteal region. This disease is largely seen in young people between the ages of 15 years and 35 years, and males are affected about three to four times more often than females.<sup>1</sup> The incidence of the disease is 26/100,000 in the general population.<sup>2</sup> Although its etiology remains controversial, the most generally accepted theory is the penetration of free hair into the skin at the site of the entrance (maceration, scar, humidity) and the depth,<sup>1</sup> and is associated with a foreign body reaction. PSD is accepted as an acquired pathology that has not been changed by traditional surgical or nonsurgical intervention in recent years.<sup>3</sup> Although the disease has been reported in different parts of the body,<sup>4,5</sup> the most common site is the intergluteal cleft.

Although many surgical and nonsurgical methods have been proposed, no clear consensus on the optimal treatment has been reported so far in the literature. Medical treatment modalities such as phenol, silver nitrate, and electrocauterization of the cavity are used to treat PSD. Many techniques have been advocated for the surgical treatment of chronic pilonidal disease since its first description by Anderson in 1847.<sup>6</sup> There are also surgical options after excising the cavity, such as primary closure, leaving it to secondary healing, and sophisticated procedures such as Z-plasty, split-skin grafting, advancement flap rotation, or Karydakias flap.<sup>7</sup>

The ideal method should be simple, inflict minimal postoperative pain, require short a hospitalization and minimal wound care, allow a rapid return to normal activity, and have a low recurrence rate. The main problem after PSD surgery is recurrence, and recurrence rates have been reported in the literature to range from 3% to 46%, depending on the technique used.<sup>8</sup> The lowest recurrence rates have been reported with local flap reconstructions including the Limberg flap. Modifying the natal cleft and lateralizing the scar from the midline are the most important factors to eliminate the essential causative factors of PSD.<sup>7</sup> The Limberg flap technique has several drawbacks including undesirable cosmetic results, necrosis at the vertex of flap, and incision site skin maceration.

Although we had achieved advantages with the modified Limberg flap (MLF) technique, the aim of this study was to present the clinical results of the eyedrop-shaped Limberg flap technique performed in 91 patients with PSD, an approach that allows surgeons to overcome the flap complications of the rhomboid narrow angle flap.

## 2. Materials and methods

Ninety-one patients who had been operated on for PSD between June 2010 and December 2012 were analyzed at the Samsun Military Hospital in Samsun, Elbistan State Hospital in Kahramanmaraş, and Suleyman Demirel University in Isparta, Turkey. Patients with concurrent abscess formation ( $n = 6$ ), recurrent pilonidal sinus ( $n = 4$ ), a more complex pilonidal sinus (orifices of the sinus extending laterally or near the anus;  $n = 3$ ), and insufficient medical records or problems ( $n = 12$ ) were excluded. Thus, 91 patients with PSD were enrolled for analysis in this prospective study (Fig. 1).

The patients with PSD underwent the procedure, wherein eyedrop excision and MLF technique were used without any specific selection criteria. Infected sinuses were treated with antibiotics prior to the surgery, and abscesses were managed with surgical drainage combined with antibiotic therapy. After the details of the surgical procedure were explained to the participants, the operations were performed by the same surgeon.

The patient's age, sex, duration of preoperative symptoms, operation time, mean hospital stay, postoperative wound complications, maceration rate and recurrence rate, and hypoesthesia in the gluteal region were recorded during follow-up or at the last interview. Clinical assessments were performed postoperatively on the 1<sup>st</sup> day, 3<sup>rd</sup> day, 5<sup>th</sup> day, and 10<sup>th</sup> day and by telephone on the 1<sup>st</sup> month, 3<sup>rd</sup> month, 6<sup>th</sup> month, and 12<sup>th</sup> month.

### 2.1. Operative technique

The patients were hospitalized, and the site of the operation (gluteal and sacral region) was shaved on the day of the surgery. Patients were operated on under spinal anesthesia. Ampicillin-sulbactam (1 g) was administered to all patients as prophylaxis 30–60 minutes prior to the surgery. The patients received no bowel preparation. An adhesive tape was used to part the buttocks. The patients were placed in the jackknife position.

Neither methylene blue or H<sub>2</sub>O<sub>2</sub> was injected. All sinus tracts were resected *en bloc* with an eyedrop-shaped excision without vertex, using a surgical blade (Figs. 2–4). The inferior apex of the excision was placed about 1–2 cm lateral to the midline. A Limberg flap, including skin, subcutaneous tissue, and fascia of the gluteal muscle, was prepared (Figs. 5 and 6) with meticulous hemostasis, and no drain was used. The Limberg flap was sutured with deep and interrupted 2–0 Vicryl sutures to the edges of the defect. The skin was closed with 3–0 polypropylene sutures (Fig. 7).

Download English Version:

<https://daneshyari.com/en/article/4282672>

Download Persian Version:

<https://daneshyari.com/article/4282672>

[Daneshyari.com](https://daneshyari.com)