



Original research

Bilateral gluteal advancement flap for treatment of recurrent sacrococcygeal pilonidal disease: A prospective cohort study



Khaled Elalfy, Sameh Emile*, Ahmed Lotfy, Mohamed Youssef, Hossam Elfeki

General Surgery Department, Mansoura Faculty of Medicine, Mansoura University, Mansoura City, Dakahlia providence, Egypt

H I G H L I G H T S

- 40 patients with recurrent PND were treated with bilateral gluteal advancement flap.
- Patients had a mean age of 25.1 ± 6.8 years and mean BMI of 28.4 ± 2.7 .
- Mean operative time was 87 ± 13 min. Mean LOS was 3 ± 0.72 days.
- Recurrence occurred in 2 patients and minor complications in 6 patients.
- 38 patients were satisfied by the end of follow-up period.

A R T I C L E I N F O

Article history:

Received 25 January 2016

Received in revised form

1 March 2016

Accepted 4 March 2016

Available online 11 March 2016

Keywords:

Recurrent

Pilonidal sinus

Pilonidal disease

Flap surgery

Gluteal advancement

A B S T R A C T

Background: There is controversy about the best surgical approach for recurrent pilonidal disease (PND) up till now. This study aims to evaluate the efficacy of bilateral gluteal fascio-myo-cutaneous advancement flap (BGFMCF) in treatment of recurrent PND.

Patient and methods: Forty patients (35 males, 5 females) with recurrent PND were admitted and treated with BGFMCF. Variables assessed were incidence of recurrence, postoperative complications, patients' satisfaction and quality of life.

Results: Patients had a mean age of 25 ± 6.8 years and a mean body mass index of 28.4 ± 2.7 . Mean operative time was 87 ± 13 min and mean length of hospital stay was 3 ± 0.7 days. Mean period of follow-up was 15.8 ± 4.9 months. Recurrence was detected in 2 (5%) patients and minor complications occurred in 6 (15%) patients. Thirty eight (95%) patients were satisfied by the procedure at the end of follow-up period.

Conclusion: BGFMCF is an effective procedure for treatment of recurrent sacrococcygeal PND with low recurrence rate and acceptable morbidity.

© 2016 IJS Publishing Group Ltd. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Pilonidal disease (PND) is a common chronic inflammatory condition mainly affecting the sacrococcygeal region with an incidence of around 0.7% of general population. Mayo first described PND in 1833 then Hodge coined the term "pilonidal" in 1880. PND is more common in males with a male to female ratio reaching up to 4:1 [1]. It usually starts in the adolescent age due to the effect of sex

hormones on pilosebaceous glands and progressive growth of body hair [2].

The exact pathogenesis of PND is still controversial. Obesity, sedentary lifestyle, deep natal cleft, family history of pilonidal disease [3], prolonged sitting or driving [4], and excessive body hair [5] were recognized as predisposing factors for PND.

Two theories were proposed for the pathogenesis of PND. The congenital theory assumes that PND is a congenital remnant of an epithelial-lined tract from post-coccygeal epidermal cell rests. Since pilonidal cyst is not a true cyst with epithelialized walls, the congenital theory faded soon after its proposal and was replaced by the acquired theory. The acquired theory suggests that fallen hairs from the scalp or local hairs penetrate into the subcutaneous tissues of the natal cleft causing a localized foreign body reaction resulting in formation of a cyst and subsequently an abscess [6,7].

* Corresponding author. General surgery department, faculty of Medicine, Mansoura University Hospitals, El-gomhuoria Street, Mansoura City, Egypt.

E-mail addresses: Khaledalfy@hotmail.com (K. Elalfy), sameh200@hotmail.com (S. Emile), dr_lotfy9@hotmail.com (A. Lotfy), m_elkhir@yahoo.com (M. Youssef), hossamelfeki@gmail.com (H. Elfeki).

PND can be an asymptomatic condition in some patients. However, the most frequent presentations of PND are pain at the sacrococcygeal region and bloody or purulent discharge accounting for about 80% of cases. Almost half of patients present first with acute pilonidal abscess manifesting in the form of painful, fluctuant mass at the natal cleft [1].

Treatment of PND represents a true challenge for surgeons due to high rates of recurrence. Many treatment modalities have been advocated, yet none of them proved to be ideal. Success of conservative treatment including personal hygiene and shaving the sacral area free of hair remains uncertain compared with surgical treatment [8]. In addition, a recent study concluded that exquisite personal hygiene neither prevents development of PND nor its recurrence [9]. Another study stated that shaving the sacral region with razor increases the rate of long-term recurrence after surgery and therefore should be abandoned [10].

Some minimally invasive techniques were used either alone or as adjunctive to surgery. Injection of various materials as 80% phenol [11], fibrin glue [12], and cyanoacrylate [13] inside the sinus cavity achieved acceptable results with recurrence rates comparable to or less than simple sinus excision. Other treatment options include platelets rich plasma [14], radiofrequency [15], and collagenase enzyme therapy [16]. However, there are no large randomized controlled studies comparing minimally invasive techniques with conventional surgical approach to conclude their efficacy.

Different surgical techniques have been described for treatment of PND with various outcomes. They include excision and lay open technique [17], excision with primary midline closure [18], incision and marsupialization [19], excision with off-midline closure as Bascom's procedure [20], excision with Z-plasty flap [21], Limberg flap, and Karydak's procedure [22]. Recently, endoscopic sinus treatment of PND [23] was introduced. These techniques aimed at accelerating healing, obtaining satisfactory cosmetic outcome, and reducing recurrence rates after sinus excision. Nonetheless, recurrence of PND remains a challenging issue.

The current study describes a modified surgical technique for treatment of recurrent cases of sacrococcygeal PND. The aim of this study was to assess the efficacy of this technique regarding incidence of postoperative recurrence, complications, and patients' quality of life.

2. Patients and methods

2.1. Study design

The present study is a prospective study, conducted in General surgery department of Mansoura University principal hospital and private hospitals in Mansoura City in the period of March 2012 to March 2015. Ethical approval was obtained from the institutional review board of Mansoura faculty of medicine. The study was registered in ClinicalTrials.gov with identifier of NCT02621879.

2.2. Subjects

Forty-two patients with recurrent sacrococcygeal PND were initially enrolled in the study. Two patients were lost during follow-up and 40 patients (35 males and 5 females) were ultimately included in the present study. Patients had a mean age of 25.1 years and a mean body mass index (BMI) of 28.4. Twenty-eight (70%) patients complained of bloody or purulent discharge and 21 (52.5%) patients complained of pain at the sacrococcygeal area. The mean duration of complaint was 15 ± 6.6 months. Twenty six (65%) patients had a single midline sinus and 14 (35%) patients had multiple midline pits.

2.3. Inclusion and exclusion criteria

Patients with recurrent sacrococcygeal PND aging more than 16 years with single or multiple pits were included in the study. Patients included presented with recurrence of PND occurred at least six months after the previous operation. We excluded patients with primary PND and patients with acute pilonidal abscess or active infection. A flow diagram illustrating the process of recruitment and exclusion of patients is demonstrated in Fig. 1.

2.4. Preoperative assessment and preparation

Patients were interviewed about their complaint, previous surgeries, and family history of PND. BMI was calculated and recorded. Routine laboratory investigations as complete blood count, liver functions tests, and prothrombin time were done. General condition of patients was assessed by ASA grading system. A single intravenous dose of ciprofloxacin 400 mg and metronidazole 500 mg was given on the night of surgery.

2.5. Surgical technique

Written informed consents regarding the nature of the procedure and the possible complications were taken from the patients. All the procedures were conducted under spinal anesthesia except in two patients; one of them refused spinal anesthesia and the other patient had a contraindication to it. General anesthesia was used in both patients. One gram of cefotaxime and 500 mg of metronidazole were given intravenously with induction. Patient was placed in prone jack-knife position. Sacrococcygeal area was shaved free of hair then was scrubbed with povidone-iodine. Adhesive tapes were used to separate the buttocks.

The surgical technique we followed represents a modification of an already described technique [24]. We started the procedure by injection of povidone-iodine through the sinus opening to delineate the boundaries of the affected area. An elliptical incision encompassing the whole perimeter of the diseased area was done with its lower edge just beyond the tip of coccyx. Then the incision was deepened with subsequent excision of all the diseased tissues down to the post-sacral fascia. Further excision was done if injection marks were visualized at the edges of the excised area.

Dissection of the gluteal fascia was carried out on both sides for five to 7 cm to develop a good fascial apron on both sides to hold future sutures and to achieve tension-free closure of the skin. Similar to what El-Shaer [24] has described, we detached both gluteus maximus muscles from the sides of the sacrum using a combination of electrocautery and periosteal elevation until both muscles could be overlapped in the midline. The technical modification we introduced was performing bilateral release incisions in the gluteal fascia in a Z-shaped manner to facilitate subsequent approximation of muscles without tension. During lateral dissection, lateral sacral perforators might be injured causing bleeding that needs hemostasis either by ligation or electrocautery.

Polyglactin 0 sutures were used to approximate both gluteus muscles and fasciae together covering the inter-gluteal cleft. A suction drain was inserted and left for four to seven days till there was no or minimal drainage except if signs of inflammation were evident. Finally, we closed the skin using 4/0 polypropylene everting mattress sutures to avoid rolled-in skin edges which may predispose to new sinus formation. Sutures were left for two weeks till complete healing was assured. Steps of the technique are illustrated in Fig. 2.

Download English Version:

<https://daneshyari.com/en/article/4285419>

Download Persian Version:

<https://daneshyari.com/article/4285419>

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