



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



HANAA ALY



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Modified Sinotomy with Marsuplization versus Excision with Lay Open in Treatment of Pilonidal Sinus Disease

Thesis

Submitted for Partial Fulfillment of Master Degree in General Surgery

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List of Abbreviations

Abb.	Full Term
CBC	Complete blood count
CSF	Cerebrospinal fluid
EUA	Evaluation under anesthesia
KF	Karydakis flap
KFTs	Kidney function tests
LF	Limberg flap
LFTs	Liver function tests
MRI	Magnetic resonance imaging
N.S	Not Significant
PDGFS	Platelet-derived growth factors
PNS	Pilonidal sinus
PSD	Pilonidal sinus disease
RBS	Random blood sugar
S	Significant
SD	Standard deviation

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Modified Sinotomy with Marsupialization versus Excision with Lay Open in Treatment of Pilonidal Sinus Disease

Abstract

Pilonidal sinus disease (PSD) is a common infection of the skin in the gluteal cleft, with a prevalence of 0.7% in the general population. Pilonidal sinus can occur in many different areas of the body but most are found in the sacrococcygeal area, in the natal cleft, approximately 5 cm from the anus. This is a prospective comparative randomized study conducted at Department of General Surgery, Imbaba General Hospital to compare the modified sinotomy with marsupialization versus excision with lay open in treatment of pilonidal sinus disease. Pre-study power analysis revealed that a sample size of 30 patients in each group would be sufficient with 80% power and a P value of 0.05. The perfect approach for the management of PNS should be simple, cause minimal pain, have best chance for success and least recurrence rate with low risk for complications, avoid general anesthesia, require minimal wound care, and ensure minimal inconvenience for the patient with rapid return to normal activity. Number of Patients participated in this study were n=60

77% of the participants were males aged from 17-52 and 26.3 works as drivers. Operative time in modified sinotomy group ranged from 20-40 minutes and in lay open group ranged from 20-35 min (P-value: 0.07).

Presence of hair in the back in the modified sinotomy group in 83.3% while in the lay open group 76.6% (P-value: 0.004). **In conclusion**, we believe that execution of a minimally invasive surgical technique for PSD can be among the most important methods for treating not only primary PSD but also complicated and recurrent PSD cases.

Keywords: Sinotomy, Marsupialization, Pilonidal Sinus Disease

Introduction

The disease occurs mostly in young adults and its incidence is 26 cases per 100,000 and in men is twice women, the peak incidence was between 15 and 24 years of age and rarely occurs after age 40 the disease was initially thought to be congenital, due to the failure of fusion in the dorsal midline resulting in entrapment of hair follicles in the sacrococcygeal region; however, more recent research strongly favors an acquired etiology. The etiology of this disease is not fully understood, some are believed to be congenital in origin, and some consider it an acquired disease and the reason to this is that this condition can be seen in folds between the fingers of hairdressers and shepherds and dog trainers which can be due to the penetration of the hair as a foreign body and cause reactions in the subcutaneous tissue (*Enshaei & Motearefi, 2014*).

Risk factors include adiposity, sedentary occupation-life style, local irritation-trauma, insufficient body hygiene, excessive hairiness and perspiration (*Bradley, 2010*).

More commonly, patients present with chronic draining pilonidal sinus tracts. On examination, an opening is usually seen in the midline natal cleft. Occasionally

there can be multiple sinus tracts and openings. There can be cycle of closure of an opening with acute infection and spontaneous drainage. Loose hair may be seen projecting from the primary orifice. The tracts beneath the skin surface may be extensive and are lined with granulation tissue. With pressure on the tracts, seropurulent fluid may be discharged. If left unattended the tracts may become lined with squamous epithelium (**Hull & Wu, 2002**).

A midline pit develops that may be a hair follicle, which has shed its own hair and then allows debris to occupy the pit. Loose semi curved roots of hair fall and migrate to the cleft where they become vertically oriented and insert into the pit via their roots (**Varnalidis et al., 2014**).

A foreign body granuloma develops in the subcutaneous fat. The depth of the natal cleft is associated with anaerobic environment with moisture and pressure that can lead to increased hair insertion. The direction of the follicle determines the direction of the tract (**Khanna & Rombeau, 2011**).

Many techniques have been advocated for the surgical treatment of chronic pilonidal disease since its first description by Anderson in 1847. The spectrum of surgical

methods ranges from simple drainage to various sophisticated procedures such as Z-plasty, split-skin grafting, advancement flap rotation or Karydakias flap. Basically, these methods are classified into two main groups: total excision of the sinus, which is followed by either leaving the wound open (i.e., secondary healing) or its primary closure with techniques ranging from a simple suture to the numerous complex methods of flap rotations; and un-roofing of the cavity without performing any excision followed by either leaving the wound open (i.e., lay-open) or suturing the skin edges to the lateral wall of the sinus (i.e., marsupialization). With the recognition that pilonidal disease is an acquired lesion rather than a congenital abnormality, its treatment has progressively become less invasive and less aggressive (*Oliveira et al., 2019*).

However, recurrence is still an important surgical problem and its optimal treatment remains controversial. The ideal method should be simple, cause minimal pain, require a short hospitalization and minimal wound care, allow rapid return to normal activity and have a low recurrence rate. Because no single technique fulfills all these requirements, the issue is still under debate (*Khanna & Rombeau, 2011*).

The ideal approach for treating pilonidal disease should be simple, inflict minimal pain, have the best chance for a cure and the least local recurrence rate, avoid admission to the hospital, avoid general anesthesia, and require minimal wound care, inconvenience and time off work for the patient. Maintaining the quality of life is the main goal for patients with pilonidal disease; it also minimizes the time off work, deviation from normal activity, and costs. “Return to work period” should be as short as possible because of the economic impacts. The procedure of incision and lying open (sinotomy) involves local excision of the midline sinuses, extending into the central cavity and laying open lateral tracts. Any hairs contained in the sinus are removed and wall of the cavity is scrapped free of granulations. Modified lay-open (incision, curettage, partial lateral wall excision and marsupialization) versus total excision with primary closure in the treatment of chronic sacrococcygeal pilonidal sinus (***Gencosmanoglu & Inceoglu, 2005***).