

Research Article

DOI: <http://dx.doi.org/10.22192/ijamr.2019.06.05.003>

Pilonidal sinus: whether open approach or primary closure is better?

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Abstract

Background: Pilonidal sinus disease is an acquired condition which is a chronic intermittent disease, seen commonly in the young people. This condition was first described in 1833 by Herbert Mayo and was termed pilonidal by Hodges in 18805 from the Latin word “pilus” which means hair and “nidus” which means nest. The aim of the study was to analyses and evaluates pilonidal sinus disease and its surgical outcome.

Results: A total of 30 patients were included in this study. 25 patients (83.33%) were males whereas 05 patients (16.66%) were females. 29 patients (96.66%) had pilonidal sinus in the Intergluteal cleft whereas one patient (3.33%) had pilonidal sinus in umbilical region. 16 patients (53.33%) underwent incision and drainage as the commonest procedure. 8 patients (26.66%) underwent excision with open wound and 4 patients with excision and primary closure (13.33%). Rest had undergone some form of local flap procedure. There was no mortality in this series.

Conclusions: Intergluteal cleft is commonest site where sinus occurs. The most common complication of pilonidal sinus in our series was pilonidal abscess.

Keywords

Abscess,
primary closure,
open excision,
healing time,
recurrence

Introduction

Pilonidal sinus was first described in 1833 and its denomination arises from Latin term “pilus” and “nidus” meaning ‘a nest of hairs’. [1] It mainly affects young men and does not occur in childhood which suggests that it is an acquired pathology. [2] It mainly affects Intergluteal furrow. [3] Other areas that are affected include umbilicus, axilla, neck and breast. [4-5] Hairy skin, obesity, excessive sweating, wearing tight clothing and occupations such as barber or sitting for a long period are predisposing factors leading to pilonidal sinus of natal cleft. [6]

Pilonidal disease is a very common anorectal problem that most often arises in the hair follicles of the natal cleft of the sacrococcygeal area. Incidence was calculated to be 26 cases per 100.000, affecting males twice as much as females, and is most common in young adults of working age. Men are thought to be at higher risk because of their hirsute nature. Pilonidal sinus is also associated with obesity (37%), sedentary occupation (44%) and local irritation or trauma (34%). [7] During the Second World War, pilonidal disease very commonly appeared in jeep drivers, leading to the disease being known as, “jeep disease”. [8]

Pilonidal disease can appear as an acute abscess along with sinus tract formation. A more complex manifestation can be characterized by chronic or recurrent abscesses with extensive, branching sinus tracts. [9] The common form is an acute abscess characterized by the existence of a midline pit in the natal cleft typically identified 4 to 8 cm from the anus. The skin enters the sinus giving the opening a smooth edge. This primary tract leads into a subcutaneous cavity, which contains granulation tissue and usually a nest of hairs that are present in two thirds of cases in men and in one third of those in women and may be seen projecting from the skin opening. Many patients have secondary lateral openings 2 to 5 cm above the midline pit. The skin opening and the superficial portion of the tract are lined with squamous cell epithelium, but the deep cavity and its extensions are not.

factors that should exist to initiate the pathology of the pilonidal sinus disease first is the presence of a well stimulated pilonidal dimple, second factor is accumulation of hairs or cellular debris in the dimple and third factor is the power to introduce and change the area to initiate the pathology. Most common presenting complain are discharge, pain and swelling. [10] Surgical techniques include laying the track open, excision and healing with secondary intention, excision with marsupialization, excision with primary closure and techniques involving various flap procedures. [11]

The management of pilonidal disease depends on its presentation and ranges from simple incision and drainage to a wide excision with extensive reconstructive procedures. There is no clinical consensus on the optimal management of the pilonidal sinus and our objective is to compare the methods used by our institution and to determine the outcomes in relation to healing, hospitalization time and recurrence. We also try to determine the statistical occurrence based on sex and age.

The minimally invasive approach has been named endoscopic pilonidal sinus treatment (EPSiT), adding a possible effective tool for this disease. However, data in the literature are scant, with short follow-ups. In this prospective observational study, we report our experience with this technique presenting healing rate as the primary endpoint and hospitalization, morbidity, healing time, return to work, and satisfaction rate as secondary endpoints.

Materials and Methods

We have studied all the cases of patients with Pilonidal sinus that were treated surgically in our institution.

All patients underwent a day surgery procedure under local anesthesia and sedation while prone, with the buttocks separated by two large plasters. A single dose of antibiotic prophylaxis (Ceftriaxone) was administered 30 minutes before surgery. An elliptical incision was made and whole tract was excised completely. Romovac suction drain kept and fat was closed with interrupted Vicryl suture into the two layers. Skin closed with interrupted Nylon taking care to achieve accurate opposition of skin edges.

Patient discharged on post-operative day 1. They all received a seven-day oral course of Ceftriaxone 500mg twice daily. Skin suture were removed at day 10 post operatively.

Results

A total of 30 patients were included in this study. 25 patients (83.33%) were males whereas 5 patients (16.66%) were females. The average age for males was 23.4 years ranging from 17 to 55 years whereas the average age for females was 24.72 years with age ranging from 18-34 years.

Table 1 showing sites and distribution of different types of pilonidal sinuses and surgical procedures done

	Number of patients	Percentage (%)
Sites of pilonidal sinus		
Gluteal region	29	96.66
Umbilical region	01	3.33
Distribution of different types of pilonidal sinus.		
Primary sinus	18	60
Recurrent sinus	3	10
Pilonidal abscess	9	30
Surgical procedures done		
Incision and drainage	16	53.33
excision with open wound	08	26.66
excision and primary closure	04	13.33

Discussion

Pilonidal sinus disease is a benign condition that often causes nuisance and disability in young adults. Males, especially in the age of 16-25 years, are 6 times more commonly affected than females. [12] In our study also, males were more commonly affected. Karydakos describes 3 factors that are involved in the hair insertion process namely: (a) The invader, which is the loose hair. (b) The force, which causes insertion of hair. (c) The vulnerability of the skin causing hair insertion in the depth of the natal cleft. [13] Although, sacrococcygeal region is the most common region for pilonidal sinus, the condition rarely affects other areas also like axilla, neck, umbilical region and interdigital clefts. [14-15]

Treatment of Pilonidal sinus is still controversial. Broadly there are three types of Management - firstly excision and Healing by secondary intention, Secondly - Excision and Primary closure is more cosmetically acceptable and is associated with shorter healing time and time off work, Thirdly - Excision with reconstructive procedures are more technically demanding. Various procedures for PNS ranges from an extreme conservative, non-surgical approach to extensive surgical procedures with full thickness flaps techniques. [16-17] Surgery should not only eradicate the existing sinus and crevice in which the hair tends to accumulate but also aim to establish complete and rapid primary healing and to prevent recurrence. [18] The ideal treatment of PNS remains a topic of debate. The ideal surgery should be simple, with short hospital stay, have a low recurrence rate, associated with minimum pain and wound problems. Simple excision and healing by secondary intention causes more patient discomfort, needs more painful dressings, and requires longer time for healing and more time off

work. Primary closure provides an earlier wound healing, reduced hospitalization and less time off work when compared to lay open techniques or marsupialization. [19] Obliteration of the concavity of natal cleft, gives better wound healing and minimizes recurrence, Various methods have been proposed. KARYDAKIS introduced technique of asymmetrical wound closure. BASCOM's technique involves excision of midline pits with lateral open drainage of associated abscess. [20]

For more complicated and recurrent PNS and unhealed midline wound, more aggressive treatment with rhomboid flaps, Z plasty or gluteal myocutaneous flap are used. The most common feature of all these different procedure is that they reduce the depth of the cleft and place the suture line away from the midline and attempt to achieve the low recurrence rate. [21] An ideal operation should be simple, offers shorter hospitalization, rapid wound healing, low recurrence rate, minimal postoperative pain, decreased time off work and cost effective. [22] The most important factor in causing post-operative discomfort is wound infection and recurrence. The most important factor in causing recurrence is incomplete excision. The complete excision of sinus is the most common practice but controversy on how to manage the wound after excision still remains unresolved. [23]

Endoscopic pilonidal sinus treatment (EPSiT) can be performed as day surgery with early return to work with minimal pain and no postoperative infection or wound dehiscence. The open [24] and flap procedures [25] are associated with poor patient satisfaction because of the presence of a large scar. On the other hand, the endoscopic (EPSiT) approach offers very good aesthetic results, since the scar is 5 mm, no suture stitches are present, and no tension is present.

Conclusion

Pilonidal sinus is a common clinical condition affecting young adults, especially males. Intergluteal cleft is commonest site where sinus occurs. Lack of pain, absence of a scar, easy self-management at home, faster recovery and return to daily activities, and a low risk of wound dehiscence or recurrence may explain the high satisfaction rate reported in our study. Furthermore, this technique can be easily repeated, and, in cases with recurrence, patients, if well informed, prefer to repeat the minimally invasive treatment rather than being immobilized for weeks after a traditional treatment.

Although this minimally invasive approach must be validated in randomized prospective trials, we believe that EPSiT could represent the ideal treatment for pilonidal sinus, given that it is simple, safe, effective, reproducible, and very well accepted by the patient.

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	Website: www.ijarm.com
	Subject: Medical Sciences
Quick Response Code	
DOI: 10.22192/ijamr.2019.06.05.003	

How to cite this article:

Ashok Meghwal, Satish Jain. (2019). Pilonidal sinus: whether open approach or primary closure is better?. Int. J. Adv. Multidiscip. Res. 6(5): 12-16.

DOI: <http://dx.doi.org/10.22192/ijamr.2019.06.05.003>