

Outpatient pilonidal sinotomy complemented with good wound and surrounding skin care

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ABSTRACT

Objective: To describe an improved method for treating pilonidal sinus disease.

Methods: An outpatient procedure involves laying the pilonidal sinus tract open under local anesthesia, removal of hair and debris, curettage of granulation tissue, with subsequent daily dressing, weekly shaving, and let it heal by secondary intention. The medical records of 100 patients underwent this procedure were studied regarding complications, healing time, and recurrence. This study was carried out at King Abdul-Aziz Medical City, Riyadh, Kingdom of Saudi Arabia, between January 2000 and December 2003.

Results: Ninety-five patients (95%) were males and 5 patients (5%) were females. The mean age was 21.7

years. Almost all patients who underwent the procedure were discharged after the procedure. Complications included 2 cases (2%) of bleeding, one case (1%) of vasovagal attack requiring admission overnight, 10 cases (10%) of delayed healing, and 2 cases (2%) of recurrence after an average of one year from complete wound healing. Ninety patients (90%) had completed healing after one month of daily dressing and 10 patients (10%) after 2 months.

Conclusion: Outpatient pilonidal sinotomy with good wound and surrounding skin care is an ideal approach with high chance of cure.

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Pilonidal sinus disease is a chronic foreign body granuloma infection that drains through openings at the natal cleft.^{1,2} The cause of pilonidal sinus disease was thought for many years to be congenital in origin that develops along an epithelialized tract of the natal cleft.³⁻⁵ However, the congenital theory has been challenged by the acquired theory. The acquired theory states 2 possibilities; first, hair follicles at the natal cleft get obstructed and enlarged then rupture into the subcutaneous tissues forming abscess, which then rupture outside forming sinuses.⁶⁻⁸ Second possibility states that broken hair insert into the skin at the natal cleft provoking the foreign body reaction and infection of pilonidal disease.⁹ This confusion in etiological origin led surgeons to adopt different approaches to treat pilonidal sinus disease

ranging from the least conservative approaches to the most radical and extensive reconstructive approaches. The ideal approach for treating pilonidal disease should be simple, inflict minimal pain, have the best chance for cure and least local recurrence rate, avoids admission to the hospital, avoids general anesthesia, require minimal wound care, and minimal inconvenience and time off work for the patient.^{10,11} No single treatment method proved to meet all these ideal goals. This paper, however, describes an improved outpatient approach that meets most of the ideal goals for the management of pilonidal sinus disease.

Methods. Records of 100 patients underwent pilonidal sinotomy as an outpatient procedure at

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King Abdul-Aziz Medical City, Riyadh, Kingdom of Saudi Arabia, between January 2000 and December 2003, were studied regarding complications, healing time, and recurrence. All patients were dealt with once diagnosed in the outpatient department. Patients with advanced and complex (namely extensive area with side branching) pilonidal sinus disease were carried out in the main operating theater under spinal or general anesthesia and were excluded from this study. The procedure was explained to all patients, informed consent was signed, and a consultant surgeon and trainee residents under supervision carried out the procedure in a nearby nursing room of the surgical clinic. No pre-operative investigations were required routinely. The patient was placed in the prone position, and both buttocks were shaved and kept spread away with an adhesive tape. The skin of the lower back and natal cleft region was shaved and scrubbed with 10% diluted iodine solution. A local anesthesia was achieved using 2% Xylocaine in 1:100,000 Adrenaline (up to 20 milliliters) injected subcutaneously as a field block around the sinus region. A metal probe was used to identify the track (Figure 1). The skin overlying the track was incised sharply to lay it open, and the wound was curetted clean of all debris, hair, and granulation tissue (Figure 2). The lining fibrous wall was not excised; otherwise, complications such as bleeding and delayed healing may occur. Occasionally, hair found within the sinus lining fibrous wall would be excised. The wound was washed with normal saline and hemostasis is usually achieved by gauze pressure. The wound was packed with Iodoform ribbon gauze (Figure 3) and covered with a dry dressing. Postoperatively the patient was observed for 15 minutes then discharge with oral analgesics containing paracetamol and codeine. The patient attends the nursing clinic for daily wound care that involves cleaning with diluted iodine solution and dressing with normal saline packing, ensuring continuous cleanness and weekly shaving of the surrounding skin. There were a follow up every week until there is a complete healing of the wound. Last follow-up was given after 3 months from complete wound healing and all patients were instructed to visit the clinic if they have any problem related to recurrence of the disease. Almost all patients could return to their work the next day of the procedure with light work, until complete wound healing. However, most of our patients were given sick leave ranging from 3-14 days depending on some logistic reasons not related to the procedure.

Results. The mean age was 21.7 years with a range of 15-39 years. All patients were discharged on the same day of surgery except for one patient who had vasovagal attack that need to be admitted



Figure 1 - Pilonidal sinus track.



Figure 2 - Pilonidal sinus track laid-open and curettaged.



Figure 3 - Packing of pilonidal sinus track wound.

for observation overnight. Almost all patients were followed-up for 3 months from complete wound healing. Ninety patients (90%) had completed healing after one month and 10 patients (10%) had completed healing after 2 months of treatment. Postoperative complications included 2 (2%) cases of bleeding, one (1%) case of vasovagal attack, 10 (10%) cases of delayed wound healing, and 2 (2%) cases of recurrent pilonidal disease.

Discussion. Many procedures have been described for the treatment of natal cleft pilonidal sinus. The conservative approaches including medical treatment, brushing of the sinus tract, and phenol injection are simple and convenient; however, reported recurrences were unacceptably high ranging from 30-40%.^{11,12} Excision of the pilonidal sinus with primary closure has the advantage of rapid healing, but the recurrence rate is also relatively high up to 38%.^{11,12} Local advancement flap described by Karydakos¹³ has the lowest recurrence rate reported 0-1%. However, this procedure is extensive, that was carried out under general anesthesia, and requires few days of hospital admission. Bascom⁷ described the follicle origin theory and a technique similar to the idea described by Karydakos¹³ with main differences related to the use of local anesthesia as an outpatient and leaving the side wound open for drainage. Bascom⁷ reported a very low recurrence rate, initially the number of reported patients was small and the technique of closure of sinuses pits leaving the lateral wound open to drain has not been favored by many surgeons.¹² Bascom¹⁴ reported an approximately 16% recurrence rate of pilonidal sinus disease after 3 years of follow-up when more patients were involved. Many local advancements and rotational cutaneous and myocutaneous flap techniques have been described. These procedures require hospitalization, and extensive dissection with reported recurrence rates varied from 6-20%.¹² Incision (lay open) techniques with or without

marsupialization have low recurrence rate averaging approximately 8% over the long term.¹² However, due to the frequent dressings and long healing time required; these techniques are not convenient to some surgeons and patients. Preceding papers that have reported good numbers of patients using similar techniques are summarized in **Table 1**. The main drawback of the method described in this paper is the inconvenient frequent dressings required. The daily dressing carried out by the nursing staff was not inconvenient to them as the surgical nursing clinic is running daily throughout the week days, except weekends, where patients are instructed to proceed to the hospital emergency department. Daily dressing is considered to be very important to prevent premature closure of the skin over the wound cavity, especially for patients with poor body hygiene. Those with good body hygiene could carry out the daily dressing easily at home as per nurses' instruction using a reflecting mirror or a spouse aid and have a weekly wound care, shaving, and check up. Complications included 2 bleeding cases, which required hemostasis with silver nitrate sticks. The use of electro-cautery may prevent such complication. Delayed healing was related to the size of the wound and to the poor compliance of some patients with regular daily dressings. Patients should be clearly instructed prior to the procedure that half of the treatment is the regular daily dressings in nursing clinic or elsewhere. Recurrences occurred during the first 3 months of follow-up in 2 patients and were mainly related to irregular visits for daily dressings resulting on premature closure of the wounds that were thought to have healed. Recurrences were dealt with once seen in the clinic using the same method described. Patients were not seen after the 3 months follow-up; instead, they were instructed to report back as a walk-in if they develop any future recurrence. No further recurrences have been reported up to an average of one year since complete wound healing. The patient who experienced a vasovagal attack

Table 1 - Summary of studies of pilonidal sinotomy and healing by granulation.

Studies	Year	N of patients	Anesthesia	Inpatient or outpatient (days)	Mean healing time (days)	Recurrence %
Miller et al ¹⁵	1967	362	Local anesthesia	Inpatient (4)	28	3
Rickles ¹⁶	1974	227	Local anesthesia	Outpatient	-	4
Weinstein et al ¹⁷	1977	126	Local anesthesia	Inpatient (3)	<60	21
Wood et al ¹⁸	1977	131	General anesthesia	Inpatient (3-4)	56	1
Al-Homoud et al ¹⁹	2001	98	General anesthesia	Inpatient (5)	72	3

during the procedure could not leave the outpatient department and was admitted to the hospital overnight due to fear and dizziness despite stable vital signs. No symptoms or signs of overdose of local anesthesia were presented. Patients did not have any significant postoperative pain; however, the use of long acting local anesthesia such as Bupivacaine of 0.25% may prove to be superior to Xylocaine of 2% for postoperative pain control.

In conclusion, pilonidal sinus disease is a common surgical problem that burdens hospital resources and operative theater lists unnecessarily. The method described in this paper was found to be simple, cost-effective, and ideal with high chance of cure.

References

- Cintron JR, Abcarian H. Pilonidal disease. In: Cameron JL ed. Current surgical therapy. St. Louis (Missouri): Mosby; 2001. p. 316-322.
- Dorton HE. Conservative treatment of pilonidal disease. A foreign-body granulomatous process. *Am Surg* 1970; 36: 349-351.
- Haworth JC, Zachary RB. Congenital dermal sinuses in children-their relation to pilonidal sinus. *Lancet* 1955; 2: 10-14.
- Holmes LB, Turner EA. Hereditary pilonidal sinus. *JAMA* 1969; 209: 1525-1526.
- Chamberlain JW, Vawter GF. The congenital origin of pilonidal sinus. *J Pediatr Surg* 1974; 9: 441-442.
- Millar DM. Etiology of postanal pilonidal disease. *Proc R Soc Med* 1970; 63: 19-20.
- Bascom J. Pilonidal disease: Origin from follicles of hairs and results of follicle removal as treatment. *Surgery* 1980; 5: 567-572.
- Notaras MJ. A review of three popular methods for treatment of postanal (pilonidal) sinus disease. *Br J Surg* 1970; 57: 886-890.
- Karydakis GE. Easy and successful treatment of pilonidal sinus after explanation of its causative process. *Aust N Z J Surg* 1992; 62: 385-389.
- Hull TL, Wu J. Pilonidal disease. *Surg Clin North Am* 2002; 82: 1169-1185.
- Allen-Mersh TG. Pilonidal sinus: finding the right track for treatment. *Br J Surg* 1990; 2: 123-132.
- Rakinic J. Sacrococcygeal pilonidal sinus. In: Cameron JL, ed. Current surgical therapy. St. Louis (Missouri): Mosby; 1998. p. 302-306.
- Karydakis GE. New approach to the problem of pilonidal sinus. *Lancet* 1973; 2: 1414-1415.
- Bascom J. Pilonidal disease: Long-term results of follicle removal. *Dis Colon Rectum* 1983; 26: 886-890.
- Miller RJ, Mucha S, Lowery C, Turville WC. Pilonidal disease: A logical approach. *Postgrad Med* 1967; 41: 382-385.
- Rickles JA. Ambulatory surgical management of pilonidal cyst. *Am Surg* 1974; 40: 237-240.
- Weinstein MA, Rubin RJ, Salvati EP. The dilemma of pilonidal disease: Pilonidal cystostomy, re-appraisal of an old technique. *Dis Colon Rectum* 1977; 20: 287-289.
- Wood RAB, Williams RHP, Hughes LE. Foam elastomer dressing in the management of open granulating wounds: Experience with 250 patients. *Br J Surg* 1977; 64: 554-557.
- Al-Humoud SJ, Habib ZS, AbdulJabbar A, Isbister WH. Management of sacrococcygeal pilonidal disease. *Saudi Med J* 2001; 9: 762-764.