
Management of Pilonidal Sinus

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Abstract

Background:- A Pilonidal sinus (PNS) occurs in the cleavage between the buttocks (natal cleft) and can cause discomfort, embarrassment and absence from work for thousands of young people (mostly men) annually.

Objectives:- Assessment of our experience was done with the comparison between methods of treatment of the pilonidal sinus and other studies.

Patients & Methods:- A retrospective study over 10 years from Jan. 1997 to Dec. 2007 one hundred eighty four patients with pilonidal sinus had been operated by the author. Analysis according to the age, sex, type of presentation, treatment and morbidity with each type compared with other studies.

Results:- Group A; one hundred thirty three male patients, Mean time of healing (M.T.O.H.) 48 days, delayed healing time (more than two months) (6.7%). Recurrence rate 5.3%. Twenty three female patients, M.T.O.H. 45 days, delayed healing time (8.7%) and recurrence rate (4.35 %). Group B; sixteen male patients, M.T.O.H. 51 days, delayed healing time (12.5%) and recurrence rate (6.25%). four female patients M.T.O.H. 49 days, delayed healing time (25%) and recurrence rate zero. Group C; five male patients, recurrence rate 100%. All needed surgery. Three female patients, recurrence rate 67% needed surgery, one patient 33% missed during follow up.

Conclusion:- Excision and healing by granulation tissue has low recurrence rate, long healing time, long absence of the work, and more nursing.

Key words: - pilonidal sinus , management, acute, chronic.

Introduction:-

The pilonidal sinus was described first by Hodges 1880^[1]. It is diagnosed by finding a characteristic epithelial tissue track (sinus), situated in the skin of the natal cleft short distance behind the anus and usually contains hair, hence the name of the pilonidal from Latin which means nest of hair during second world war .

The disease was common in Jeep drivers, that is why called Jeep disease ^[2]. A similar condition is arising functionally in the cleft between fingers of the left hand of the Hair dressers ^[2]. Also rarely arise in the umbilicus and axilla. Pilonidal sinus is of unknown etiology but acquired theory is acceptable and summarized as follows:

In sitting the buttocks take the weight of the body and move independently, or together, hair broken off by friction against clothing and shed short hairs, weather originating from the nape of the neck, back or buttocks tend to collect in the cleft of the nates or a post natal dimple, It is rarely effects people who use ablution after defecation unlike who use toilet papers that making hairs with fecal materials sweeping into cleft. Pilonidal sinus is more common in hairy obese. Male /female ratio 4/1 and age incidence is 3 years younger in female because of early maturation ^[2] It is more in people sitting on the hard vibrating seats as in Jeep drivers^[2].

Pilonidal sinus recurrence is common even though adequate excision of the tracks is carried out ^[2]. It is rare before puberty and after 40 ages ^[3]. It is more in white races Caucasians than Asians and Africans ^[4]. Pathologically Pilonidal sinus contain

dead hair without follicles and the complaint is of a discharge and pain or tender swelling at the bottom of the spine and often there is a history of repeated abscess formation and often has one or more openings in the sacrococcygeal region, the sinus is directed upward and forward towards the sacrum and it does not reach the bone.

Conservative management:-

- * **A symptomatic** cases with painless lump or swelling may be discovered by the patient while washing or the characteristic midline pits may be found during routine physical exam, these cases treated by local hygiene and meticulous depilation followed by washing the pits by detergents and water then applying locally equal amount of alcohol and witch hazel with avoiding long sitting or long driving of vibrating vehicle ^[5].
- * **Acute pilonidal abscess:** - Early acute abscess with tolerable pain and no evidence of cellulites, broad spectrum antibiotics and depilation may be sufficient. If symptoms resolve, follow up examination of the presence of sinus is recommended. Majority of acute cases require urgent surgery.
- * **Phenol injection:** - Under local anesthesia phenol injection into the sinus Cause sclerosis and gradual closure. This has high recurrence rate, time consuming and need frequent repetition ^[6].

Operative management:-

- * **Pilonidal abscess:** - Bascom has proposed a method to incise, drain and curette a chronic abscess

through a lateral incision combined with excision of any midline pits with a minimal amount of surrounding tissue ^[7]. Ninety percent healed within one month compared to just 58% healed at 10 weeks in the absence of curettage ^[8].

***Chronic pilonidal sinus:** - Excision and healing by granulation tissues. Its advantage is low recurrence rate but its disadvantage is long healing time (8-10 weeks) ^[9], high direct and indirect cost associated with in patient care, follow up wound care and days lost from work. There is modification of the standard excision is Marsupialisation, where the skin edges are not excised, but sutured to the sides of the wound mean time of healing (MTOH) is 4 weeks with recurrence rate 6 % ^[10].

***Excision and primary closure:-**This gives acceptable cosmetic for some patients, is of short healing time and time off work, it needs one week bed rest ^[11], with recurrence rate 18% ^[12].

***Excision and reconstructive flap techniques:-** Usually performed by plastic surgeon and used for recurrent pilonidal sinus.

Patients & Methods:-

A retrospective study over 10 years from Jan. 1997 to Dec. 2007. One hundred eighty four patients with pilonidal sinus had been managed by the author. These assessed according to the age, sex, type of presentation, treatment and morbidity with each type and patients were compared with other studies. All patients received post-operative broad spectrum antibiotics, Cephalexin capsule 500 mg;4 times daily and Metronidazol tablets 500 mg;3 times daily. Post operative follow up includes inspection of hairs and debris should be removed. Patients were advised in weekly shaving or use depilatory agent.

Patients were divided into three groups:-

*** Group A:** Includes one hundred fifty six patients. (One hundred thirty three (85.2%) males and

twenty three (14.8%) females) with chronic pilonidal sinus were treated by wide excision of the sinus and healing by granulation tissue. Prone-Jack-knife position under general anesthesia Methelene blue injected into the sinus. Elliptical incision of the skin and the subcutaneous tissue down to the presacral fascia is done. Remove of the infected tissues and debris, allowing the wound to granulate from the base. The excised dimensions should be sufficient width at both mouth and base of the wound to allow packing with ease. Packing the wound by paraffin-gauze for two days, daily change the dressing with five days hospitalization under cover of broad spectrum antibiotics followed by weekly patient visits to the surgical clinic to examine the wound. If the wound is filled with granulation tissue, change the dressing from paraffin-gauze to a dry dressing.

*** Group B:** Includes twenty patients (sixteen (80%) males and four (20%) females), with acute pilonidal abscess were treated by incision, drainage and curette the abscess cavity then followed seven days later by excision of the sinus and healing by the granulation tissue.

*** Group C:** Eight patients, five (62.5%) males and three (37.5%) females, had asymptomatic pilonidal sinus, were treated by local hygiene and depilation followed by washing of the parts with water and detergent then applying equal amount of alcohol and witch hazel .

Results:-

One hundred eighty four patients were included in this study, one hundred fifty

Four (83.7%) males age range (18 -41) years and mean age (25) years.

Thirty (16.3%) females' age range (16- 33) years, mean age (22.2) years, **table 1**.

Table 1: Age incidence in years

Gender	Range	Mean age	SD	P. Value
male	18-41	25	9.3	0.03
Female	16-33	22.2	4.3	

They were grouped as the follows:-

***Group A:** - One hundred fifty six patients with chronic pilonidal sinus, (133) (85.3%) were males. Mean time of healing (MTOH) was 48 days. Nine patients(6.7%) had delayed healing time and

7(5.3%) patients had recurrence within one year. Twenty three (14.7%) females had (MTOH) of 45 days. Two patients (8.7%) had delayed healing time. One patient had recurrence rate within one year (4.35%), **table 2**.

Table 2: Chronic pilonidal sinus treatment by excision and healing by granulation tissues.

Gender	No.	%	MTOH days	Delayed healing	%	Recurrence rate	%
Male	133	85.3	48	9	6.7	7	5.3
Female	23	14.7	45	2	8.7	1	4.35
Total	156	100					

* **Group B:** - Twenty patients with acute pilonidal abscess. Sixteen (80%) males patients with (MTOH) of fifty one days. Two patients had delayed healing time (12.5%) and one patient had recurrence within one year. Four (20%) female patients with (MTOH) of forty nine days, one patients had delayed healing time (25%) with no

recurrence, **table 3.**

* **Group C:**-Eight patients had asymptomatic pilonidal sinus. Five (62.5%) were males. All (100%) had recurrence and needed surgery by open method excision. Three (37.5%) female, two patients (67%) need excision. **Table 4.**

drainage and curette. Then excision. Open method after one week.

Table (3) Pilonidal sinus abscess treated by incision,

Table 4: Asymptomatic pilonidal sinus:

Gender	No.	%	Recurrence rate	%
Male	5	62.5	5	100
Female	3	37.5	2	67
Total	8	100		

Discussion:-

There are many studies in the management of pilonidal sinus compare this with the results of the other studies as follows: - Sondenaa et. al. studied (60) cases treated by excision with primary closure and other 60 cases treated by open method excision, recurrence rate were 10% and 5% respectively^[12].

Wienert concluded that excision and secondary wound healing represent the optimal therapy for pilonidal sinus when compared to primary midline closure^[13],

Miller and Harding showed in their study, Asymptomatic cases treated by local hygiene and those who are asymptomatic go to develop symptomatic disease. Early acute abscess treated by conservative method shows majority of these cases require urgent surgery^[14]. Chronic pilonidal sinus excision and healing by granulation tissues shows low recurrence rate, but long healing time (8-10) weeks^[15] with high direct and indirect cost associated

with inpatient care, follow up wound care and days lost from work.

Jabbar(2002) studied open method-vis. Bascom's technique, shows recurrence rate (10%) for the open method and (16.2%) for the Bascom's method (i.e. incision drainage and curettage the pilonidal abscess)^[16].

Azawi studied in 2006. The open method, (MTOH) was (43.97) days, recurrence rate (5.7%) and delayed healing time (8.57%)^[17]. When comparing these above results with our study regarding the recurrence rate and (MTOH) we found this study concluded nearly the same results of those studies with few differences, **table 5.**

The ideal treatment of pilonidal sinus should provide a high chance of cure with low recurrence rate and should avoid prolonged hospital admissions.

Also it should involve minimal time off work for the patient.

Table 5. Mean healing time and combined recurrence failure rate following lying open of the pilonidal sinus and healing by granulation tissues ^[18].

Reference	year	Cases number	MTOH	Recurrence rate%
Goodal	1961	15	--	7
Notura	1970	45	42	13
Sood et. al.	1975	23	29	43
Ortiz. Et. al.	1977	14	38	7
Houston	1977	25	31	3
Weinstien et. al.	1977	126	<60	21
Wood et. al.	1977	131	56	18
Britton et. al.	1977	42	--	8
Eftaiha et. al.	1977	175	42	1
Hodgson and Greenstein	1981	10	--	6
Thomson and lee	1982	34	<60	6
Clothie and Haywood	1984	12	--	8
Mclaren	1984	18	42	10
Bissett and isbister	1987	48	48	19

Conclusion:-

No method of surgical treatment satisfies all requirements for the ideal treatment and quick healing, no hospital admission and low recurrence rate.

In this study, excision and healing by granulation tissue is the optimal method of treatment it has low recurrence rate, but long healing time, long absence of the work and more nursing.

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