Primary Closure After Pilonidal Sinus Excision

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Primary closure after excision was performed in 25 cases of pilonidal sinus of natal cleft. The disease was found to afflict young adults ranging between 16-35 years (mean 23 years). Individuals with excessive hair were found to be more affected. The hospital stay ranged between 2-5 days (mean 3 days). The complete healing of the wound was achieved from 6-20 days (mean 9 days). Only 7(28%) patients developed complications including haematoma, wound infection and stitch abscess. There was no recurrence upto a maximum follow up of four years. Pilonidal sinus excision and primary closure is recommended as a safe operative procedure for uncomplicated pilonidal disease.

Key Words: Pilonidal sinus, primary closure

Hodges in 1880 first described pilonidal sinus as a chronic infection due to presence of hair in the depth of a sinus usually found between buttocks[1]. Contrary to the previously held view of congenital basis, pilonidal sinus is now considered an acquired illness since the hair present in the tract have their roots nearest to the openings[1]. Pilonidal sinus is predominantly a young men disease[2,3]. It is more commonly seen in hairy, obese individuals having sedentary jobs[3,5,6].

Many surgical procedures have been described for the treatment of this condition, varying from conservative to most radical operation. None of these has stood the test of time because of the associated morbidity and recurrence rate.

Primary closure after excision of pilonidal sinus gives good results and at the same time has low morbidity and recurrence rate. This procedure is not only cost effective but also convenient for the patient. An experience of this technique performed on 25 patients with pilonidal sinus is being presented.

Patients And Methods

Primary closure following excision of pilonidal sinus was carried out on 25 selected patients. Patients with upto three openings in the midline, and secondary sinuses not more than 2 cm away from midline were included in the study. Infection was brought under controled before surgery.Recurrent cases, diabetics, and morbid obese patients were excluded from the study.

Procedure was carried out under general anaesthesia by putting the patient in jack knife position. The area was shaved and the buttocks were kept apart by using adhesive tape. After preparing the skin with povidone iodine solution, methylene blue was injected to outline the secondary tracts. An elliptical incision was made including skin, subcutaneous tissue and the sacral fascia was removed. Haemostasis was secured with diathermy. Total excision of the sinus was ensured by encircling the sinus tracks. The cavity was washed with normal saline and povidone iodine. A 12 gauge radivac suction drain was placed in the wound. Prolene No.1 was used as a tie-over stitch after applying the subcutaneous No. 0 polyglactin suture. The skin was stitched and the drain was kept for 3-5 days till the drainage reduced to less than 15ml a day. The patient was allowed to go home on 3rd postoperative day with or without intact suction drain. The patients were asked to come earlier in case of any complication.

Results

Twenty five patients selected for this study included 19(76%) males and 6(24%) females (3:1). The age of patients ranged between 16 to 35 years (mean 25 years). Nineteen patients (76%) had excessive hair: out of which 4(21%) were females. There were 7(28%) obese patients. Obesity and hairy character coexisted in 5(20%) patients. Eight(32%) patients had sedentary jobs. (Table 1)

Table 1 Predisposing factors (n=25)

Status of hair	Excessive hair 19(76%)	Normal hair 6(24%)
Obesity	Obese 7(28%)	Normal weight 18(76%)
Job	Sedentary 8(32%)	Active 17(68%)

The hospital stay ranged between 2 to 5 days (mean 3 days). Healing time observed was 6 to 20 days (mean 9days) No complication was seen in 18(72%) patients. Seven (28%) patients had complications including stitch abscess in 3(12%). haematoma formation in 2(8%) patients, and wound infection in2(8%) (Table 2).

Table 2 Complications (n=7)

Complications	n (%age)
Stitch abscess	3(12%)
Haematoma	2(8%)
Wound infection	2(8%)

There was no recurrence in the maximum follow up of 4 years

Discussion

Pilonidal sinus of the natal cleft is a chronic recurring condition, which can be difficult to treat. Many operative techniques have been devised which are still associated with complications or recurrence. Mersh described that the ideal treatment of pilonidal sinus should provide a greater chance of cure along with low recurrence rate and should avoid hospital admission and general anaesthetic while involving minimal inconvenience and time off from work by the patient[7]. Lord and Millar mentioned an out patient treatment protocol where after a midline incision, the epithelial follicles are cored out under local

anaesthesia and hair with the remaining granulation lined tracts are removed by passing a small brush along the tract which is repeated till the tract closes[8]. Maurice, Greenwood and others have developed a similar approach except that the epithelial component of the tract and any debris within is destroyed by injection of 5% phenol after curettage[9].

There have been numerous reports of experience with laying open of the pilonidal sinus tract under local anaesthesia in an out patient set up[10]. Wide and deep excision to sacrum under general anaesthesia has been carried with an average healing time of 73 days which is reducible to 27 days if marsupialisation is done[7].

Golliger et al have reported that excision of involved tissue followed by primary closure has the advantage of quicker healing and greater convenience for the patient since prolonged open wound dressings are avoided. However, a necessary hospital admission and use of general anaesthesia is a discredit.[11] Failed primary healing may result in delay due to poor granulation. Primary healing was achieved within two weeks in more than 90% patients while the remaining patients required opening of all or a part of wound thus allowing the cavity to heal by open method[11].

Excision with primary closure offers complete healing to most of the patients within two weeks. The proportion of patients who have delayed healing after primary closure[13] is similar with that of laying open treatment in the same period[14]..Mask J et al have suggested that only motivated patients can return to work early after laying open[15]. However, primary closure allows an earlier return to work in all. In a study conducted on motivated service men, return to work after laying open (mean 29 days) was longer than after primary closure (mean 22 days)[16]. Notras and Besett et al reported a similar trend in civilians[12,17]. Good results after primary closure are competence dependent and have the disadvantage of essential hospitalization and use of general anaesthesia. Results of primary repair are seen better by a particular enthusiast as compared to the work done by less experienced personnel from general hospitals[12,18]. For most practical purposes, treatment cost (hospital and district nurse costs and loss of income) is 40-50% higher for primary closure than for laying open[17,7]. The recurrence rate at one year following open method of treatment (13%) is similar to that after primary closure (15%)[7].

This study also highlights that pilonidal sinus is a disease commonly seen in hairy young adults. Male to female ratio is same as seen in other studies[2]. We have observed no predilection of the disease for the persons having sedentary jobs contrary to the previous reports[17].The mean healing time in this study is 9 days which is definitely less as compared to laying open method. The morbidity and discomfort associated with laying open has not been seen in our patients because the complication rate was very low.

Our study proves that primary closure after excision of PNS is a safe method, avoids prolonged hospital stay and has low morbidity and recurrence rate. A case can be made to employ this technique in selected patients undergoing surgical treatment of pilonidal disease.

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