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Results of Primary Closure and Excision of Pilonidal Sinus Disease

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ABSTRACT

Objective: *The aim of this analysis was to determine the results of excision and primary closure of pilonidal sinus disease.* ***Study Design:*** *A Prospective Study.* ***Place and Duration:*** *In the Surgical department of PIMS Hospital Islamabad for the one-year duration from May 2018 to May 2019.* ***Methodology:*** *Eighty cases were included for excision with primary closure. Individuals having recurrent pilonidal sinus disease and with acute pilonidal sinus, abscess were excluded from the analysis. All subjects were operated in prone position under general anaesthesia. To clean the sinus tract; Methylene blue dye was injected. Postoperative complications and recurrence were recorded. All patients were followed at the outpatient department for three months and then every three months.* ***Results:*** *Eighty patients who met the criteria of inclusion were underwent surgery. 68 were male of the 80 patients, the female was 12, and 34 years was the mean age. Six days was the mean hospital stay and three weeks was the average duration when patients return to their work. From 80 patients; 10 (12.5%) had wound infection and 3 from them had minor wound infection. The seroma formation was noted in 5 (6.25%) which was aspirated. Only 6 patients had a recurrence, representing a 7.5% overall recurrence rate.* ***Conclusion:*** *It is concluded that pilonidal sinus disease primary closure and excision are related to early wound healing, short hospital stay, reduced chance of recurrence and rapid return to work.*

Keywords: Seroma, Primary closure of pilonidal Sinus, Pilonidal Sinus

INTRODUCTION

Pilonidal sinus disease is a common disease of the sacrococcygeal region and occurs in various ways [1]. The pilonidal sinus disease history dates back to the beginning of 1880 and remains a major health problem today [2]. In 1880, Hodge assigned the name pilonidal from the Latin pilus which means hair and nidus means nest [3]. The disease usually involves the sacrococcygeal area between the hips but is also seen in the interdigital areas and armpits [4]. The pilonidal sinus among digits of fingers is a professional disease of the hairdresser and hair belongs to the habitue. Firstly, it was supposed to be of congenital source, and now the pilonidal sinus disease is believed to have been attained in relation to the hair present in the natal cleft [5]. The primary closure and excision is a preferred technique paralleled to simple removal and secondary healing [6]. There are less wound separation and infection in primary closure results and have fewer postoperative visits, faster recovery time, and shorter rest time and pain relief [7]. Excision and if the wound kept open will result in a lengthy median stay in hospital and prolong the time of recovery. If a midline approach is used for sinus tract removal, the wound may be closed primarily or keep open, and permitted to heal with second intent [8]. Some studies have shown a faster return to work with rapid average cure rates and

primary closure [9]. All surgical methods have benefits and disadvantages. The most common surgical procedure is excision and primary closure of wound or second intention healing by keeping wound open.

MATERIALS AND METHODS

This Prospective study was conducted in the Surgical Department of PIMS Hospital Islamabad for the one-year duration from May 2018 to May 2019. 80 cases were included for excision with primary closure. Individuals having recurrent pilonidal sinus disease and with acute pilonidal sinus, abscess were excluded from the analysis. One day before surgery; all patients were admitted to the surgical unit. A detailed clinical examination and history were taken. Following a routine laboratory examination; all patients were arranged for surgery. All cases were operated in prone position under general anaesthesia. Using the adhesive tape; both buttocks were strapped. The operation area was draped and clean. To clean the sinus tract; Methylene blue dye was injected. 1.5 g cefuroxime prophylactic antibiotic was administered intravenously during GA and continual for 2 days and then changed orally for 5 days. In the midline around the natal cleft; an elliptical incision was given to cover the entire tract and canal. With sharp continuous dissection, the incision was moved to the sacrococcygeal fascia.

All tracts and sinuses were completely removed. Good hemostasis was achieved. Full tension sutures were applied with prolene 0 (polypropylene-0). Redivac drainage was placed into the wound cavity from another incision. Vicryl (polyglycolic acid) was approached to the subcutaneous tissue with 2/0. Cutaneous suture were applied with prolene 2/0 in mattress interrupted form. When drainage was minimal, drainage was removed. On the fifth postoperative day, the tension sutures were removed and on the next day, subjects were discharged. All volunteers were counseled not to put force on the wound. Skin sutures were taken on the tenth postoperative day. Patients were followed up in our department every month for 3 months and monthly for 1 year.

RESULTS

Eighty patients who met the criteria of inclusion were undergone surgery. 68 were male of the 80 patients, the female was 12, and 34 years was the mean age. Six days was the mean hospital stay and three weeks was the average duration when patients return to their work. The mean hospital stay was 3 days. Tension sutures were removed in all patients in the fifth postoperative period. From 80 patients; 10 (12.5%) had wound infection and 3 from them had minor wound infection, namely suture abscesses and six had a large wound infection, and three of these patients had daily dressing after suture removal. This was done in patients for two to three weeks. The seroma formation was noted in 5 (6.25%) which was aspirated. In 3 patients (3.75%), there was hematoma formation drained by removing some skin spots and then for twelve to fifteen days daily dressing was applied. For 1 year, all patients were followed up. The recurrence was noted in six cases, representing a total recurrence rate of 7.5%. These relapses were detected between 5-7 months during follow-up. These five patients had pussy and bloody discharge from the wound (Table 1).

Table 1 Complications of Primary closure

Complications	No.	Percentage (%)
Hematoma formation	3	3.75%
Wound Infection	10	12.50%
Seroma formation	5	6.25%
Recurrence	6	7.50%

In four subjects, due to sinus tract, incomplete excision recurrence occurs. We could not determine the cause of a patient.

DISCUSSION

The pilonidal sinus is a blind tract covered with granulation tissue that usually leads to a cystic cavity containing hair. It usually involves the sacrococcygeal region between the hips. During World War II, more than 80,000 soldiers were hospitalized [10]. This was called “jeep rider’s disease” because many soldiers were hospitalized for pilonidal sinus disease had a history of using jeeps. It is thought that a long journey along a challenging road leads to the situation due to the pressure and irritation of the coccyx. Initially, it was thought to be a congenital pilonidal disease of origin, now believed to have been acquired due to the hair present in the natal cleft [11]. A foreign body reaction is initiated

due to hairs leading to the formation of troughs in the midline. This is much usual in Caucasians than in Africans or Asia because of different hair growth and its characteristics [12]. Men are more likely to be affected than women because of their hairy nature. This is reflected in our study, which was 69 for men and 6 for women. Alan Marsh in 1990 studied the various surgical methods accessible for symptomatic pilonidal sinus disease, and conferring to him, the common disturbing problem after pilonidal sinus surgery is the midline unhealed permanent wound, which is common after wide local excision or primary closure of the sinus tract [13]. The pilonidal sinus surgery recurrence rate varies extensively and has been testified to be much high as 50% after the primary intervention and as high as ten to twenty percent after the subsequent intervention. Hader et al reported recurrent rates of 13%. Recurrence occurs frequently in the 1st year after primary closure and later to open management of wounds. 6.6% was the recurrence rate in our analysis [14]. These rates specify that many patients have treatment failure in spite of the selected treatment. Although the exact etiology of failures of treatment is unclear, the complication of the wound has been shown to be predictive in the primary intervention. In our study, recurrence was seen in 5 patients and in 5 of them, recurrence was due to incomplete sinus tract excision in 4 patients and we could not determine the cause in 1 patient. Now, surgeons have agreed that an ideal treatment for the treatment of pilonidal sinus disease should be simple, cause minimal pain, and need only stay in a short hospital [15]. This is replicated in our analysis. Some studies have shown a faster return to study with faster mean cure rates and primary closure, but this intervention showed a higher recurrence rate than secondary intent cure.

CONCLUSION

Excision and primary closure is the preferred method in the treatment of chronic pilonidal sinus disease. It has the advantage of early return to work, rapid wound healing, reduce recurrence rates and short hospital stay comparable to excision and leaving the wound open.

DECLARATIONS

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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