

A Case Report of Pilonidal Sinus Managed By Primary Closure and Review of Literature

Preeti Kathel^{1*}, Ashish Gupta², Achal Gupta³, Shiju K S¹

¹Postgraduate Student, Department of Surgery, Gajra Raja Medical College, Gwalior-474001, India

²Assistant Professor, Department of Surgery, Gajra Raja Medical College, Gwalior-474001, India

³Professor and Head of Department, Department of Surgery, Gajra Raja Medical College, Gwalior-474001, India

*Corresponding Author:

Name: Preeti Kathel

Email: drminipreeti@gmail.com

Abstract: Pilonidal sinus is a common, well recognized, benign disease which occurs with the greatest frequency in men. While an acute abscess can be drained, management of chronic disease is variable, contentious, and problematic. Several management techniques have been proposed but it is still a troublesome disease entity because of the high morbidity of most treatment options. Here we present a case of chronic pilonidal sinus which was successfully managed by excision and primary closure. We also review the literature about presentation and management of pilonidal sinus in the past.

Keywords: Pilonidal sinus, Abscess, Excision, Primary closure, Flaps

INTRODUCTION

Pilonidal disease is an acquired condition, mostly seen in young adults and is associated with high morbidity and patient discomfort both preoperatively and postoperatively. Patients may present (a) as an acute abscess, (b) chronic abscess/sinus, (c) patients referred from elsewhere with failed midline incision treatment.

The main goals of treatment of pilonidal disease are to decrease morbidity of patient and to prevent recurrences. There are various nonsurgical and surgical treatments. But controversy regarding the best one still exists. Several modalities have been tried including shaving, incision and drainage, phenol application, cryosurgery, excision with primary closure, excision with open packing, excision with marsupialization, cleft lift procedures and most recently flap surgery. Various types of flaps have been used like dufourmental flap, V Y advancement flap, V Y rotation flap, S-GAP flap, lumbar adipofascial turnover flap, rhomboid flaps, limberg and modified limberg flaps [1-3].

CASE REPORT

A 25 years old male presented to our outpatient department with complaint of recurrent pus discharge from upper natal cleft. On examination he had two pus discharging sinuses over the upper most part of natal cleft at the coccygeal region (Fig.1). He underwent a sinogram which revealed a blind tract communicating the two sinuses in the midline up to a

depth of 10cm and was diagnosed to have pilonidal sinus (Fig. 2). All other investigations were normal.



Fig. 1: Patient having two pus discharging lesions in the sacrococcygeal region



Fig. 2: Sinogram showing pilonidal sinus

He was posted for sinus excision under spinal anaesthesia. Intraoperatively sinus tract was found to extend up to sacral fascia harbouring nest of hair (Fig. 3). Whole sinus tract was excised with dissection up to sacral fascia. Wound was washed with normal saline and closed primarily after raising a subcutaneous fat flap on either side including sacral fascia. Skin was sutured using mattress sutures without much tension after placing a drain (Fig. 4).



Fig. 3: Intra operative picture showing tuft of hair



Fig. 4: wound closed primarily using mattress sutures

Postoperative period was uneventful. Drain was removed on 2nd day and sutures were removed on 12th day. Wound was healthy with no apparent gaping or infection. Patient was discharged and followed up in outpatient department for 2 months.

DISCUSSION

A pilonidal sinus is an anomalous and acquired condition, in which there may be found a nidus of epithelial and hair cells submerged in the cutaneous tissue [4]. Although the disease has been reported in different parts of the body [5], sacrococcygeal pilonidal

disease is the most common and it occurs in the midline. Lesions are also found in axilla, anterior perineum, scalp, umbilicus, interdigital cleft, feet [6].

Increased depth of the intergluteal sulcus leads to an anaerobic media and increased anaerobic bacterial content [7]. Also, the vacuum effect created between heavy buttocks is thought to play an additional role in pilonidal disease development. The vacuum effect sucks the anaerobic bacteria, hair, and debris into the subcutaneous fat tissue. If these factors responsible for the development of the disease are not eliminated, they will play a major role in the development of disease recurrence as well [8, 9].

Anderson, in 1847, was apparently the first to report this lesion [10]. In 1854, Warren reported three cases of this type of lesion [11]. Hodge in 1880 termed it as 'pilonidal' [12].

About one-fifth of patients present as an acute abscess, and the rest with a chronic abscess and no history of a prior recognizable acute stage. Irrespective of the mode of presentation, the painful nature of the condition causes significant morbidity, often with a protracted loss of normal activity.

Although many surgical and nonsurgical treatment methods are available, but there is no established ideal treatment method. Though complete excision of the sinus is widely practiced, but controversy remains regarding the healing of the wound after excision [13]. Excision and packing, excision and primary closure, marsupialization, and flap techniques are surgical procedures developed for treatment [14]. Principles of treatment require eradication of the sinus tract, complete healing of the overlying skin, and prevention of recurrence [15].

An acute abscess should be incised and drained as soon as possible and as the diagnosis is made. However the cases treated by incision and drainage or excision with marsupialisation has higher recurrence rate, and as the acute condition healed it should be treated as chronic condition.

The surgical wound may be left to heal by open healing if it is small (secondary intention). Advocates of this technique state that reduced wound tension facilitates trouble free healing without recurrence if all sinus tracts are fully excised. Alternatively, the wound may be closed to heal by primary closure (primary intention) [16-18].

However, a high recurrence and complication rate has been reported because of high tension [19]. As excision and primary closure technique causes tissue tension it results in restriction of activity [20]. Most

complaints by patients after pilonidal sinus surgery are caused by wound tenderness. Although some surgeons have reported good results after primary closure, the highest postoperative infection rate was also noted [21, 22]. To overcome these complications various advancements in the surgical techniques have been made, including flap techniques which are being used commonly these days. Flap techniques have been associated with lower infection and recurrence rates, shorter hospital stay, and better aesthetic results [23]. With this technique, the intergluteal cleft can be flattened, and tissue can be approximated without tension, so that patient is more comfortable and can be return to work early. These flap techniques are aimed to close the defect away from the midline which leads to early healing and flattening of gluteal cleft.

Classic rhomboid or Limberg flap was defined by Alexander A. Limberg through paper models that he personally drew in 1963 [24]. The first application of this procedure for pilonidal sinus treatment was reported by Azab *et al.* in 1984 [25]. Z-plasty, which is another method for the pilonidal sinus treatment, was first reported by Monro and McDermott in 1965 [26]. Some early complications were reported like macerations, necrosis of lower flap edges, undesired scar mark, infection and recurrences in the lower margin of flap in limberg flap in the midline. To combat these complication modification was done by lateralising the lower flap incision 1-1.5 cm to midline as the asymmetric modified Limberg flap procedure [27-29].

CONCLUSION

Despite all the advances in surgical methods, management of pilonidal sinus remains challenging. Surgeons could be perplexed by postoperative morbidity and recurrence risk posed by any method of management. The ideal therapy would be a quick cure that allowed patients to return rapidly to normal activity, with minimal morbidity and a low risk of complications.

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