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Sacrococcygeal Pilonidal Sinus Diseases and Operative Management at Burn and Plastic Hospital in Duhok City

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Abstract

Background and objectives: Pilonidal sinus diseases usually seen in young adults, carry much morbidity and patient discomfort. The management is the most critical issue in surgical treatment because it is related to postoperative morbidity and recurrence. So, this study aims to explore sacrococcygeal pilonidal sinus diseases and the operative methods achieved in Burn and Plastic hospital in Duhok City.

Methods: A descriptive study includes 55 cases of Pilonidal Sinus disease, 50 males and five females aged between 19 and 50 years who were admitted to Burn and Plastic Hospital in Duhok City during 2018-2019 for surgical operations. Different surgical procedures were achieved including close and open methods, fascia cutaneous flaps, and skin grafts. After discharge, most of the patients attended the outpatient clinic for follow, and complications were recorded. So, this study explores the prevalence and type of surgical management used to treat them.

Results: This study showed that males were affected more than females (9:1) ratio; in the age of the second decade (47.2%). The common presentation was chronic multiple sinuses (63.6%). Operations were achieved by closed method (54.5%), flap operation (31%), open method (7%), skin graft (3.6%), and abscess drainage (3.6%). The common postoperative complication was seroma (7.2%), recurrence (5.4%), hematoma (3.6%), and wound disruption (3.6%).

Conclusion: Pilonidal is a common surgical among young adult males than females. Many conventional and flap surgical procedures are applied. It is mandatory to try many flap operations and follow up on them strictly to find the best treatment and fewer complications.

Keywords: Complication, Pilonidal sinus, Operative management

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Introduction

Pilonidal sinus disease is an acquired disorder, usually seen in young adults, that carries high postoperative morbidity and patient discomfort.[1,2] The incidence of pilonidal sinus disease (PSD) has increased continuously over the last decades, particularly in European and North American young men.[3,4] The total number of PSD-related in-patient surgeries exceeded the number of inguinal hernia-related interventions in young patients.[5] Pilonidal disease diagnosis is always a clinical one, depending on the history of the patient and the physical findings in the gluteal cleft, especially in recurrent diseases. It's important though to distinguish PNS from similar conditions like some skin disorders such as hidradenitis suppurativa and furuncles, lower intestinal diseases including Crohn's disease and perianal fistula in addition to infectious disorders like tuberculosis, syphilis, and actinomycosis. The presence of standard midline pits in the gluteal cleft is often visible during physical inspection, with hair or debris extruding from the openings.[6] Pilonidal sinus disease is still a problematic entity due to the high morbidity of most management options. Severe disease with multiple pilonidal openings, branching tracts, and patients complaining may need wide excision of the involved area. Postoperative morbidity and recurrence are related to management procedures used to repair the resulting defect in the area which seems to be a significant issue.[7,8] Though widely encountered in practice, after its first mention by Mayo in 1833, the cause and effective treatment of this disease remained controversial. While originally felt to be of congenital origin due to abnormal skin in the gluteal cleft, it is considered closely linked to the appearance of hair in the cleft as an acquired condition.[9,10] Loose hairs in the natal cleft skin produce a foreign body reaction that ultimately leads to midline pit formation and, sometimes secondary infection.[8,9,11,12] The spectrum of presentation of pilonidal disease varies from a chronically inflamed area with constantly draining sinuses to a more acute presentation of the underlying abscess. Several treatment selections range from current gluteal cleft shaving and simple excision to extensive flap operations.[13] A wide range of operative procedures have been practiced, including open and closed methods, reconstructive surgery with different flap techniques, and skin grafting. The commonly used procedure is excision and primary Closure includes an elliptical excision with some of the lateral margin is excised down to the level of the fascia.[14] Recurrent disease may probably affect patients' long-term satisfaction following PSD surgery. A wide recurrence range can be seen even within the different surgical approach techniques.[15] Some evidence suggests that recurrence is associated with surgical procedures and correlated with length of follow-up as well.[16] That's why the present paper aims to explore sacrococcygeal pilonidal sinus diseases and the operative methods that are used in management in Burn and Plastic hospitals in Duhok City.

Patients and methods

A descriptive study design of surgically treated patients who had been operated on at Burn and Plastic Surgery Hospital in the years 2018 and 2019. This study includes 55 cases who had Pilonidal Sinus (PNS) diseases, (50) males and (5) females their age range between 19-50. They were admitted to Burn and Plastic Hospital in Duhok City for surgical operations in the period from March 2018 to March 2019. The surgical procedures achieved under local or general anesthesia include drainage operation for PNS abscess Photo (1 and 2).

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Photo (1): Pilonidal Abscess

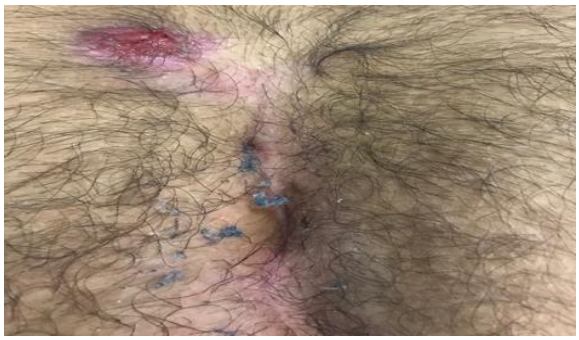

Photo (2): Single Pilonidal Sinus

Close method simple excision with primary suturing Photo (3), open method Photo (4).

Photo (3): Simple Suturing (Closed Method)

Photo (4): Open Method Operation

Fasciocutaneous flap operations include Limberg flap Photo (5), random rotational flap Photo (6 and 7), and skin grafts Photo (8).

Photo (5): Limberg Flap Operation

Photo (6): Random Rotational Flap

Photo (7): Random Rotational Flap

Photo (8): skin graft operation

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All of the patients were discharged on the same day or the day after from the hospital. Most of the patients attended the outpatient clinic for follow-up and seemed to be satisfied with their operation although some developed complications like seroma, hematoma, wound disruptions, and recurrence. Descriptive statistics such as frequency and percentage were done in order to explore the prevalence and type of surgical management that are used to treat them. Approval was achieved from Burn and Plastic hospitals in Duhok City in order to conduct this study. Also, informed written consent was obtained from patients for doing the operative management in addition to using and publishing the data related to their conditions.

Results

Out of the 55 patients included in the present study 50 of them were males (91%) while the rest 5 were female (9%) as presented in Figure (1).

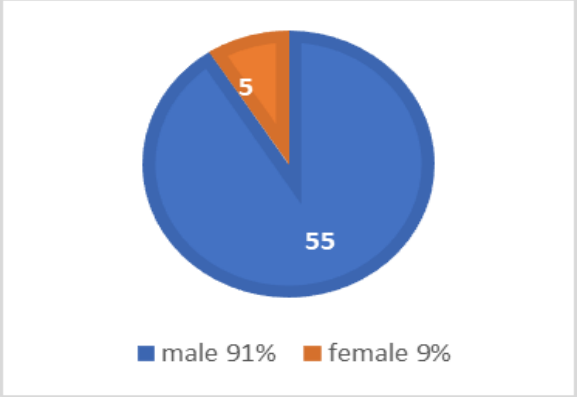

Figure (1): Gender Distribution

The results of Figure (2) present that (47.2%) were in the second decade of life (20-29) years followed by an age group below (20) years (34.5%).

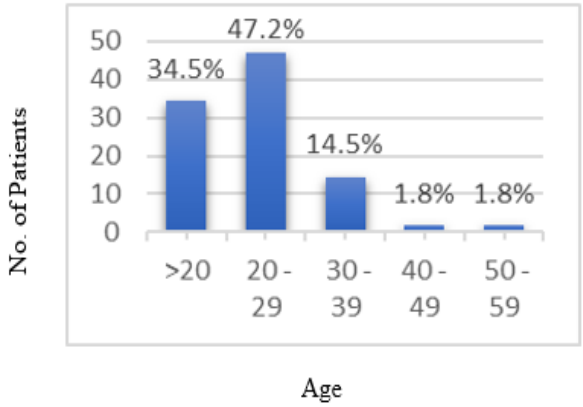

Figure (2): Age Distribution

The findings of Figure (3) show All the patients presented with PNS diseases of variable sinus opening ranging from single sinus to multiple sinuses and abscess formation.

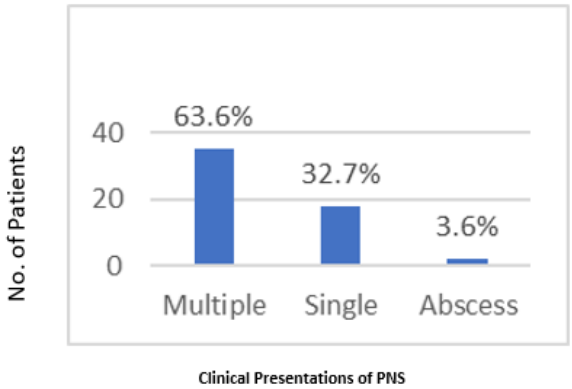

Figure (3): Clinical Presentations of the Patients.

Acute presentation as an abscess is reported in two patients (3.6%) as illustrated by Photo (1), or single discharging sinus of short history recorded in (18) (32.7%) Photo (2), while multiple recurrent chronic sinuses in (35) patients (63.6%) Photo (9).

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Photo (9): Multiple Pilonidal Sinuses

The Pilonidal sinus management was as the closed method applied for (30) patients (54.5%), the open method for (4) patients (7%) two types of flap operations for (17) patients (31%) Figure (4)

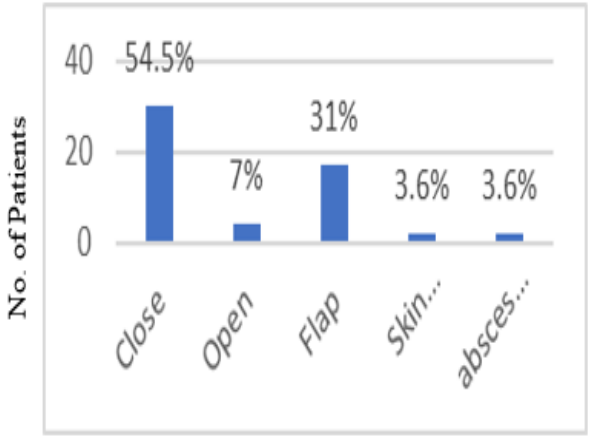

Figure (4): Types of Surgical Operations

Short-term follow-up within six months is done for most of the cases in outpatient clinics. Long-term follow-up could not be possible. Postoperative complications (Figure 5) include seroma 4 cases (7.2%), haematoma 2 cases (3.6%), wound disruptions 2 cases (3.6%), recurrence 3 cases (5.4%), and infection 0 cases (0%).

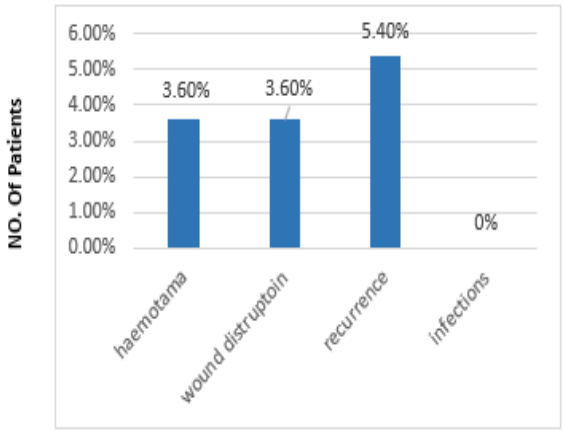

Figure (5): Postoperative complications

Predisposing factors for PNS like hairy and deep natal cleft shown in Photos (10 and 11).

Photo (10): Pilonidal Sinus with deep natal cleft

Photo (11): Hairy Pilonidal Sinus

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Discussion

Pilonidal disease is a common issue occurring most frequently in the hair follicles of the sacrococcygeal area's natal cleft. Incidence has been estimated to be 26 cases per 100,000, impacting males double as much as females, and is most prevalent among working-age young adults. Because of her hirsute nature, people are thought to be at higher risk.[12, 16] The incidence of PNS in males was (82.8%) and in females (17.2%). Ages ranged from (16) to (65) with an average age of approximately (25.1) years.[17] This study finds out that PNS disease is a common health problem in our community as it is concluded from a lot of surgical management, either emergency or elective operations in our locality. This study focused on PNS surgical procedures in Burn and Plastic Hospital alone. It is observed in this sample study that young males are affected more than females 9:1. Pilonidal disease treatment depends on its presentation and varies from simple incision and drainage to wide-ranging excision with extensive reconstructive procedures. There is no scientific consensus on the best treatment option of the PNS and our goal is to compare them in our clinic practice.[17]Varnalidis et al examined 111 patients, 63 patients were treated with marsupialization and the remaining 48 patients were treated with excision (29 patients favored open excision, while the remaining 19 patients got primary sutures). For the total number of patients, 102 (91.9 %) were discharged from the hospital after surgery, while 24-hour hospitalization in the remaining 9 cases was indicated.[17] Mehdy reported that operative management ranges from excision with primary closure to excision with flap reconstructive procedures. Flap reconstructions were superior to primary closure after excision of PNS and modified Limberg flap was superior with regard to wound infection and recurrence.[18] Ersoy et al studied 150 patients and showed marsupialization was applied to 82 (46.9%), unroofing to 20 (14.7%), primary closure to 29 (16.6%), and Limberg flap to 44 (25.1%) patients.[19] In our surgical practice, various procedures were achieved. In the present study, many operative procedures have been applied. Procedures extending from simple abscess drainage (3.6%), excision with open method (7%), excision with primary suturing (54.5%), reconstructive flap operations of different modalities (31%); including random rotational flap and Limberg flap to the last option of partial thickness skin graft (3.6%). The type of operation depends on the clinical presentation of the patients. These results were comparable to other studies although some procedures like marsupialization are not applied in our routine practice. In this study, although a small size sample, only short-term follow-up for six months was accessible. Recorded complications include seroma (7.2%), haematoma (3.6%), wound disruption (3.6%), recurrence (5.4%), and infection (0%), so the complication rate is (19.8%) which is relatively low comparable to other studies and probably partly attributed to the small study sample. Short-term recurrence at an average of (5.4%) was obtained for all types of surgery collectively and hence it seems low rate comparable to other studies.In a study analyzing (89,583) patients from randomized control trials and non-randomized control trials, the Karydakis & Baswcom approaches were associated with recurrence of only 0.2% 12 months and 0.6% 24 months postoperatively. Primary midline closure exhibited long-term recurrence up to 67.9% 240 months post-surgery.[21]Ersoy et al stated the complications concerning the type of operation. They found the highest complication rate in the primary closure group infection in (17.2%) wound dehiscence (13.8%), and recurrences (13.8%) of the patients.[19]In the post-discharge period, interestingly no wound infection or flap necrosis was noticed. All of the patients were

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discharged from the hospital on the same day of the operation except the two cases of skin graft who were discharged a day after the operation because of the smooth postoperative period without early complications. This is considered a short stay period comparable to other studies.Kanlioz and Ekici reported the complications encountered in the post-discharge period were wound site infection in (47%), abscess and seroma accumulation in (24%) of the patients, and partial superficial flap necrosis occurred only in one patient in addition to non-surgery related complications. During the postoperative hospital stay, (37%) of the patients were found to have complications, which could be either surgical or non-surgical complications.[21] Onder et al recorded a complication rate of (29.2%) and a recurrence rate of (13.2%).[22]

Conclusion

This study concludes that Pilonidal disease is a common surgical problem in this region in young adults, males more than females, as emergency and cold cases. Many conventional and flap surgical procedures are applied. It is mandatory to try many types of flap operations and follow up them strictly to find out the best treatment and less complications.

Disclosure:

The authors assert that they have no conflicts of interest.

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