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ORIGINAL ARTICLE

SURGICAL OUTCOME OF KARYDAKIS TECHNIQUE IN SACRO-COCCYGEAL PILONIDAL SINUS

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ABSTRACT

Background: Pilonidal sinus is caused by repeated traumatic penetrations of the skin by hair with consequent infolding and sinus formation. The objective of the study was to determine the surgical outcome and post-operative satisfaction level of patients undergoing Karydakis technique in sacro-coccygeal pilonidal sinus.

Material & Methods: This descriptive cross-sectional study was conducted at the Department of General and Laparoscopic Surgery, Hayatabad Medical Complex, Peshawar, Pakistan from January 2013 to December 2014. Sample size was 38. All male sacro-coccygeal pilonidal sinus patients aging 16 to 65 years were included. Demographic variable was age in years. Research variables were duration of symptoms, follow up, length of stay, return to work, healing time, sacro-coccygeal pain, purulent or mucopurulent discharge, fever, swelling, tenderness and presence of frank abscess, seroma formation and over all satisfaction. Mean ±SD were calculated for continuous variables while frequencies and percentages were calculated for categorical variables. Data was analysed using IBM SPSS Statistics version 22.0 descriptively.

Results: The mean age of the sample of 38 patients was 31.13 ±5.8 years; ranging from 16 to 65 years. Mean symptoms duration was 11.9 ±4.8 days. The mean follow-up duration was 9.87 ±1.89 months. The mean length of stay was 3.42±1.24 days. The mean return to work time was 8.79 ±2.1 days while mean healing time was 12.89 ±1.91 days. The presenting complaints were sacro-coccygeal pain in 34(89.5%), purulent or mucopurulent discharge in 30(78.9%), fever 22(57.9%), swelling 15(39.5%), tenderness 10(26.3%), presence of frank abscess 10(26.3%), seroma formation 3(7.9%) and over all satisfaction was (63%).

Conclusion: Over all satisfaction rate was high in Karydakis technique in sacro-coccygeal pilonidal sinus patients.

KEY WORDS: Pilonidal sinus; Karydakis technique; Sacro-coccygeal; Postoperative satisfaction.

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INTRODUCTION

Pilonidal sinus is caused by repeated traumatic penetrations of the skin by hair with consequent infolding and sinus formation. In majority of cases, the sinus secretes thin serous secretions, which at times may get colonised by local skin flora potentiating invasive skin infection, abscess formation and frank cellulitis. Infection and abscess formation lead to acute morbidity due to a systemic inflammatory response and local effects. It causes significant discomfort in terms of loss of work. Risk factors include obesity, sedentary work condition, family history and thick hairy skin. The patients are predominantly males and female patients are reported very rarely.[1,2]

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Treatment of pilonidal sinus disease is primarily surgical with main goal of therapy is to remove the infected focus, provide rapid healing conditions locally and improve symptomatology in order to shorten the time lost from work and education and to stop recurrence of the disease because surgical excision will not modify the risk factors.[3] In majority of cases, surgeons have employed secondary healing methods, in order to reduce recurrence risk. However, the open healing techniques takes longer time to healing, prolonged days of dressing the wound bed and consequently late return to resumption of normal activity and work.[4,5]

Primary closure, limberg flap, Bascom procedure and Karydakis technique of primary closure are some of the modifications, with primary aim of reducing postoperative morbidity and facilitating early return to daily activities. Karydakis technique involve asymmetric excision of the sinus tract and primary closure in the off-midline fashion in order to alter the normal anatomical groove for hair infiltration. This technique was introduced by Karydakis GE[6] in 1973.

One of the unique features of Karydakis technique is

its simplicity to learn, shorter operative time and low cost of surgical equipment.[6,7] All of these features have high importance in our setup, because tertiary care facilities are low in number, patient load is high while overall poverty renders complex operative procedures and prolonged admission times not affordable.

Pilonidal sinus is common in younger age groups and therefore has an impact on the working members of the community. Patients usually present late which has detrimental effects in terms of morbidity. Seeking early medical care, symptoms and sings of sacro-coccygeal pilonidal sinus and the methods of its treatment are important public education perspectives to reduce morbidity.[8] The objective of the study was to determine the surgical outcome and post-operative satisfaction level of patients undergoing Karydakis technique in sacro-coccygeal pilonidal sinus.

MATERIAL AND METHODS

This descriptive cross-sectional study was conducted at the Department of General and Laparoscopic Surgery, Hayatabad Medical Complex, Peshawar, Pakistan from January 2013 to December 2014. Sample size was 38 selected through non-probability consecutive technique. All male sacro-coccygeal pilonidal sinus patients 16 to 65 years of age were included in the study. Patients unfit for general anaesthesia, having severe immunodeficiency, coagulopathy or malignancy, having frank abscess with large necrosis of skin were excluded. Informed consent was obtained. The approval of the institutional ethical committee was sought. Proper history and examination of all the patients was done. They were operated under GA in prone position. Karydakis GE in his original paper described the technique as off midline incision with excision of the sinus tract and undermining of the skin to the contralateral side. At the end of the procedure, the skin was sutured to sacral fascia and the suture line was placed to one side of the midline. Postoperatively the patients were shifted to ward and were kept in lateral or prone position for the initial 24-72 hours. Empirical IV antibiotics, covering local skin flora were given for 3-5 days postoperatively, especially in the infected cases. IV analgesia was provided initially during the first 24 hours (Ketorolac 30 mg 8-hourly). After the initial 3 doses of analgesics, patients were prescribed oral ibuprofen 400mg with advice to take on as need basis. During the follow-up, wound status, the need for total dose of ibuprofen or an additional low dose opioid analgesic, return to work and the occurrence of any complications were noted. First appointment was on 2-week postoperatively and thereafter monthly for 6 months. Wound stitches were removed at 10th postoperative day while wound healing was defined as at least 25% to 50% epithelialisation at the skin edges. Demographic variable was age in years. Research variables were duration of symptoms, follow up, length of stay, return to work, healing time, sacro-coccygeal pain, purulent or mucopurulent discharge, fever, swelling, tenderness, presence of frank abscess, seroma formation and over all satisfaction. Mean ±SD were calculated for continuous variables like age, duration of symptoms, follow up, length of stay, return to work, healing time and post-operative satisfaction, while frequencies and percentages were calculated for categorical variables such as sacro-coccygeal pain, purulent or mucopurulent discharge, fever, swelling and tenderness, seroma formation, presence of frank abscess and over all satisfaction each having two attributes of Yes & No. Data was analysed using IBM SPSS Statistics version 22.0.

RESULTS

The mean age of the sample of 38 patients was 31.13 ±5.8 years; ranging from 16 to 65 years. Mean symptoms duration was 11.9 ±4.8 days. The mean follow-up duration was 9.87 ±1.89 months. The mean length of stay was 3.42 ±1.24 days. The mean return to work time was 8.79 ±2.1 days while mean healing time was 12.89 ±1.91 days. The presenting complaints were sacro-coccygeal pain in 34 (89.5%), purulent or mucopurulent discharge 30 (78.9%), fever 22 (57.9%), swelling 15 (39.5%), tenderness 10 (26.3%), presence of frank abscess 10 (26.3%), seroma formation 3 (7.9%) and over all satisfaction was (63%).

DISCUSSION

Many surgical techniques have been introduced over the course of time. The primary aim of any surgical approach is the complete excision of the sinus tract along with potential for rapid healing, lesser morbidity, lesser potential for complications and enhanced long-term results in terms of lower recurrence rates. These factors are not exhaustive and the final decision rests with the surgeons' experience, local skin status (presence or absence of infection, abscess) and patient preference.[1,9,10]

Historically, open healing technique has been used by surgeons after excising the pilonidal sinus tract and debridement of any infected tissue. The results have been excellent in terms of recurrence and complications; this is the reason that open healing technique has been kept a standard to which other procedures are compared. However, the major disadvantage of open healing technique is the prolonged postoperative morbidity as the patient cannot mobilise socially, prolonged healing time and the need for repeated dressing. GE Karydakis in 1973 published his report of operating more than 1600 patients with the primary aim of reducing recurrence and rapidity of healing. Recurrence in operated patients is usually the result of the retained natal cleft anatomy, where depth is correlated to increased recurrence. So excising the sinus tract with flattening of the natal cleft will have lesser recurrence chances. By applying this technique, he reported 8.5% rate of wound infection with only 9 patients having recurrence in 6 years of follow-up duration.[5-7,9,11-13]

Further modification has improved the technique with various studies reporting recurrence and infection rates of 0-10%.[2,8] Studies comparing the effectiveness of Karydakis to Limberg flap technique have consistently reported that the former technique consumes lesser operative time, has favourable postoperative complication profile and a very high cosmetic satisfaction rate (91%).[14,15,16] The overall satisfaction rate in our study was 63.01% which was lower as presented by Yildiz et al.[14]

CONCLUSION

Over all satisfaction rate was high in Karydakis technique in sacro-coccygeal pilonidal sinus patients.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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The following authors have made substantial contributions to the manuscript as under:

Conception or Design:	AM, NS
Acquisition, Analysis or Interpretation of Data:	AM, NS, SM, RK
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All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.