Original Research Article

DOI: http://dx.doi.org/10.18203/2349-2902.isj20174891

Excision and primary closure of pilonidal sinus: excellent results

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Received: 30 August 2017 Accepted: 28 September 2017

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ABSTRACT

Background: Pilonidal sinus (PNS) is an acquired condition described as a chronic sinus containing hairs and found between the buttocks. Best surgical method is still being searched for treatment of PNS in terms of minimizing disease recurrence and patient discomfort.

Methods: The prospective study of 40 patient undergoing excision and primary closure of pilonidal sinus from October 2013 to July 2016 at Max Super Speciality Hospital Gurgaon.

Results: Mean operative time was 30 minutes. One patient developed hematoma due to blockage of drain on postoperative day 2 which was flushed with saline and drain made patent, one patient developed seroma and one had wound infection. Rest other patients had uneventful course post operatively. No recurrence was noted over 6 month

Conclusions: We advocate this method of treating PNS which is simple, less time consuming, short hospital stay, rapid healing, shorter time off work, minimal recurrence with excellent results.

Keywords: Drain, Excision, Pilonidal sinus, Primary closure

INTRODUCTION

Pilonidal sinus is a blind ended tract having lining of granulation tissue leading to cystic cavity which often contain loose hair. Pilonidal sinus was first described in 1833 and its denomination arises from latin term "pilus" and "nidus" meaning 'a nest of hairs'.2 It mainly affects young men and does not occur in childhood which suggest that it is an acquired pathology.³ It mainly affects intergluteal furrow.4 Other areas that are affected includes umbilicus, axilla, neck and breast.⁵⁻⁹ Hairy skin, obesity, excessive sweating, wearing a tight clothing and occupations such as barber or sitting for a long period are predisposing factors leading to pilonidal sinus of natal cleft.10

There are three factors that should exist to initiate the pathology of the pilonidal sinus disease first is the presence of a well stimulated pilonidal dimple, second factor is accumulation of hairs or cellular debris in the dimple and third factor is the power to introduce and change the area to initiate the pathology. Most common presenting complain are discharge, pain and swelling.¹¹ Surgical techniques include laying the track open, excision and healing with secondary intention, excision with marsupialization, excision with primary closure and techniques involving various flap procedures.¹²

METHODS

The prospective study of 40 patient undergoing excision and primary closure of pilonidal sinus from October 2013

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to July 2016 at Max Super Speciality Hospital Gurgaon. Patient were operated under spinal anaesthesia. Injection 1.5gm Cefuroxime was given intravenously just before induction. Sinuses were probed and methylene blue was injected by attaching the syringe with IV cannula into sinuses. An elliptical incision was made and whole tract was excised completely.

Hemostasis was secured. Full through and through tension sutures were applied using Polypropylene-O suture. Romovac suction drain kept and fat was closed with interrupted Vicryl suture into the two layers. Skin closed with interrupted Nylon taking care to achieve accurate opposition of skin edges.

All the excised PNS were subjected to histopathological examination. Patient discharged on post-operative day 1. They all received a seven-day oral course of Cefuroxime 500mg twice daily. Skin suture were removed at day 10 post operatively.

RESULTS

The present study includes 40 patients with PNS, out of which 39 patients were male and one was female. Mean age of patients was 28.8 years. Three patients had previous operation for PNS (recurrent) and rest had chronic PNS. Mean duration of symptom was 3 months. Discharge and pain were most common symptom. Mean operative time was 30 minutes. All patient was discharged in 24 hours with drain. Drain was removed on 5th day post operatively on the OPD basis. Suture were removed on 10th day post operatively. All patient returned to their normal activities in 8 to 14 days post operatively.

Table 1: Patient characteristics and post-operative results.

Total patients	40
Male	39
Female	1
Mean age (years)	28.8 (15-60 years)
Mean duration of symptoms (months)	3 (1-6 months)
Past H/O surgery (abscess drainage)	3
Mean operative time	30 minutes
Average hospital stays	1 day
Average return to normal activity (days)	10 (8-14) days

One patient had Seroma after drain removal that was treated conservatively with antibiotics and resolve spontaneously. One patient developed hematoma after discharge on POD-2 due to blockage of drain, patency of drain achieved by flushing the drain with saline. One patient developed wound infection necessitating removal of few stitches for drainage and wound healing by secondary intentions. No patient had recurrence in sixmonth follow-up.

Table 2: Post-operative complication.

Complication	Number
Seroma	1
Hematoma	1
Wound infection	1
Recurrence	0

DISCUSSION

Treatment of PNS is still controversial. Broadly there are three types of Management - firstly excision and Healing by secondary intention, Secondly - Excision and Primary closure is more cosmetically acceptable and is associated with shorter healing time and time off work, Thirdly -Excision with reconstructive procedures are more technically demanding. Various procedures for PNS ranges from an extreme conservative, non-surgical approach to extensive surgical procedures with full thickness flaps techniques. 14-16 Surgery should not only eradicate the existing sinus and crevice in which the hair tends to accumulate but also aim to establish complete and rapid primary healing and to prevent recurrence. 17,18 The ideal treatment of PNS remains a topic of debate. The ideal surgery should be simple, with short hospital stay, have a low recurrence rate, associated with minimum pain and wound problems.

Simple excision and healing by secondary intention causes more patient discomfort, needs more painful dressings, requires longer time for healing and more time off work. 12,19 Primary closure provides an earlier wound healing, reduced hospitalization and less time off work when compared to lay open techniques or marsupialization. 12,19,20 Obliteration of the concavity of natal cleft, gives better wound healing and minimizes recurrence, various methods have been proposed. KARYDAKIS introduced technique of asymmetrical wound closure. BASCOM's technique involves excision of midline pits with lateral open drainage of associated abscess. 21

For more complicated and recurrent PNS and unhealed midline wound, more aggressive treatment with rhomboid flaps, Z plasty or gluteal myocutaneous flap are used. Tritapepe R, Di Padova C published a series where 243 patients were treated by excision and primary closure of PNS over a suction drain. Healing was by primary intention in all cases and no recurrence was seen in 5 to 15 years of follow up.²² Randolph S Williams reported a series of 31 patients of PNS underwent excision and primary closure of sinus over a suction drain the result were excellent.²³ The main aim of primary closure is rapid healing and this is achieved by prevention of sepsis and hematoma formation. The use of high vaccum suction drainage has been shown to be effective in preventing these complications.²³

All the different surgical approaches have been used to manage the sacrococcygeal pilonidal sinus, none of the

approach eliminate the post-operative morbidity including delayed wound healing, discomfort and high rate of recurrence which ranges between 1% to 43% in different studies.24 The most common feature of all these different procedure is that they reduce the depth of the cleft and place the suture line away from the midline and attempt to achieve the low recurrence rate.25 An ideal operation should be simple, offers shorter hospitalization, rapid wound healing, low recurrence rate, minimal postoperative pain, decreased time off work and cost effective.²⁶ The most important factor in causing postoperative discomfort is wound infection and recurrence. The most important factor in causing recurrence is incomplete excision. The complete excision of sinus is the most common practice but controversy on how to manage the wound after excision still remains unresolved.27

CONCLUSION

For uncomplicated pilonidal sinus excision and primary closure is a safe procedure. It is simple, less invasive, reducing hospital stay, allowing early resumption of the work by patient and low recurrence rate.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the

institutional ethics committee

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Cite this article as: Singh A, Kumar S, Jyoti V, Yadav P, Pandey A. Excision and primary closure of pilonidal sinus: excellent results. Int Surg J 2017;4:3711-3.