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STUDY THE BACTERIOLOGY OF PILONIDAL SINUS AND EVALUATE THE EFFICACY OF KSHARA SUTRA IN THE MANAGEMENT OF RECURRENT PILONIDAL SINUS

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ABSTRACT:

Pilonidal disease, although a self limiting condition, is a cause of considerable morbidity and social embarrassment. The chief problems include frequent recurrences and need for prolonged hospitalization. The aim of this study was to evaluate the Ayurvedic para surgical treatment(Kshara sutra) for the sacrococcygeal sinus. The surgical treatment remains controversial and recent reports suggested different surgical approaches. There is apparent agreement, that pilonidal disease with a acute abscess formation should be treated by incisions & drainage. For chronic recurrent sinuses various techniques have been reported in the field of surgery and no single method is universally acceptable. The Ayurvedic para surgical approach (Kshar sutra treatment) had been practiced for the Fistula in ano and Pilonidal sinus for a long time in the field of Ayurveda surgery with good results and least recurrences and complications in comparison to modern surgical approach.

The microbiology study carried out to identify the susceptible microorganisms on the Pilonidal sinuses. The pus smear was taken from the Pilonidal sinuses opening by cleaned cotton swab and sent to the department of microbiology, in sterile container, and where pus culture was done. Pus swab was inoculated on Nutrient Agar medium. The plated media were incubated at 37° C and examined at 48 hours after incubation. Smears from colonies that grew on the Nutrient Agar media were stained with Gram-stain. Gram-positive organisms and Gram-negative organisms were identified by conventional biochemical techniques.

At present the study included 40 patients, 34 men and 6 women who had underwent para surgical treatment procedure of Kshara sutra for chronic Pilonidal disease with recurrences.

The thread was changed on daily basis and each time the length of the thread removed from the tract was measured and plotted on a graph. This gives an idea of the gradual progression of a healing of the pilonidal sinus.

This paper discuss the results of the study where forty (40) patients with pilonidal sinuses with recurrences were treated by application of the Kshara Sutra(medicated seton) curettage and healed with a low recurrence rate (03%) and followed up for two years. The regimen allows treatment as an outpatient and non ambulatory procedure.

KEY WORDS: *Pilonidal sinus,; Kshara sutra, microbiology, medicated seton, recurrence*

INTRODUCTION

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SRILANKHA

Pilonidal disease, although a self limiting condition, is a cause of considerable morbidity and social embarrassment. It mainly affects those under 30 years of age and lasts less than four years. Pilonidal disease is a common and well recognized entity. In 1833, Herbert Mayo described a hair containing sinus, but not until 1880 did Hodge suggest the term "Pilonidal"⁽¹⁾. to indicate a disease consisting of a hair-containing sinus in the sacrococcygeal area⁽²⁾. Pilonidal disease is a chronic intermittent disorder of the sacrococcygeal region that most commonly arises in the hair follicles of the natal cleft, affecting predominantly young adults of working age⁽³⁾. The surgical treatment remains controversial and recent reports suggested different surgical approaches. There is apparent agreement, that pilonidal disease with a acute abscess formation should be treated by incisions & drainage. For chronic recurrent sinuses various techniques have been reported in the field of surgery and no

single method is universally acceptable. The *Ayurvedic para surgical* approach (*Kshara sutra* treatment) had been practiced for the Fistula in ano and Pilonidal sinus for a long time in the field of *Ayurveda* surgery with good results and least recurrences and complications in comparison to modern surgical approach⁽⁴⁾..

This study was designed to assess the effectiveness of a treatment protocol: after cleaning the sinus cavity the *Kshara sutra* was administered the next day. The thread was renewed every day.

OBJECTIVES

To study the efficacy of *Kshara sutra* treatment in the management of the Pilonidal disease

Patients and methods

The study sample included forty (40) patients presenting with pilonidal disease with recurrences ,Age 15-70 years, either attended or referred from other clinical departments between 2012 and 2013 to the ano rectal clinic of the Gampaha Wickramarachchi Teaching Hospital, When the primary survey was complete and each patient was ready for treatment, the all patients were given a mild laxative 5gm at night before treatment commenced. The following morning a hot water sitz bath was provided and the area was well cleansed. The patient was then placed in

the lithotomy position on the operating table and a suitable probe was selected.

The size of each abscess was determined by measuring the maximum and minimum diameters of the limits of fluctuation. The abscess cavities were incised, all sinuses were broken down. The length was determined by introducing probe and the pieces of Guggulu base *Kshara sutra* were inserted in it and dressing applied. This procedure conducted at twice a week until healing was complete. The patients were given advice on shaving and hygiene following healing. In this study least recurrence rate was experienced in patient treated by *kshara sutra*. A "recurrence" was defined as the reappearance of a sinus or abscess after healing was complete.

Documentation was obtained for abscess history, treatment, and healing time. We reviewed the patients by personal interview and examination in the department. In the majority of patients, no anesthesia was required. The thread was changed on daily basis and each time the length of the thread removed from the tract was measured and plotted on a graph. This gives an idea of the gradual progression of a healing of the pilonidal sinus. Diabetic, Tuberculosis and other chronic diseases were exclude from the study.

At the end the healing process the sinus depth become lesser, once it received to

last one centimeters the wound heals within the next few days' time, which does not exceed one week. The resulting scar was minimal and linear as compared to the extensive mutilating scar resulting from surgery in such cases. Recording of these cases was done very systematically and each document bears the patient's registration number and the code 'POLDER' which prepared for this study. (P - type of pilonidal sinus 0- sites of external openings, L- length of the tract as denoted by the initial length of the thread, D -duration of disease, E - previous operations, if any, and efficiency of treatment in an in which is denoted by the rate of cutting or unit cutting time, R - recurrence, if any).

RESULTS

To establish whether larger abscesses influenced healing time, the surface area was calculated after measuring the diameters. The abscesses were divided into those 10 cm² or less and those greater than 10 cm². The mean healing times were 12.4±1.4 and 14.8±1.5 days respectively (t=1.13, v=65*, P>0.1). There was no significant difference between these groups, and hence no correlation between abscess size and healing time could be found.

In this study we have used the resumption of normal activities as an observer

independent index of healing time. Mean time was 12.9 ± 1.9 days.

The cases were also analyzed in terms of chronicity of the disease since it might bear a relation to the rate of healing. The distribution of cases according to chronicity revealed that 48% of the cases

were of less than one year's duration, 26% of 1-3 year's duration and the remaining 26% of more than three year's, duration (Table 1). The unit cutting time does not have a significant difference in all these groups; however, it has a higher value in cases having 1-3 year's chronicity.

Table 1: Chronicity of the disease

Chronicity of disease	No. of cases	Percentage of cases
Up to 1 year	24	48%
1 - 3 years	13	26%
Above 3 years	13	26%

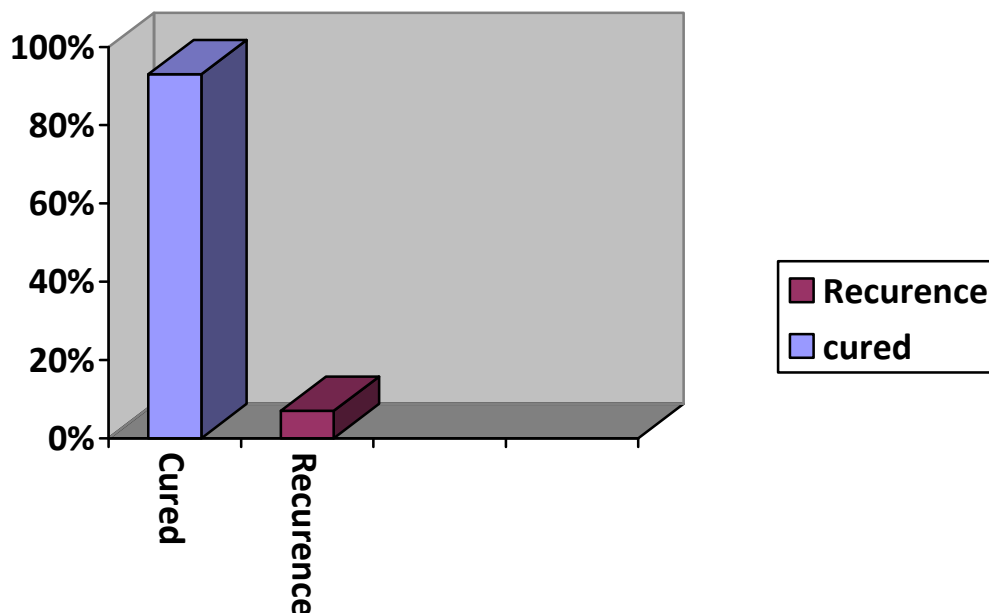
Table 2: Bacteriology swabs demonstrated a variety of organisms

<i>Bacteroides Spp.*</i>	23
<i>Beta haemolytic streptococcus</i>	10
<i>Anaerobic streptococcus</i>	10
<i>Staphylococcus aureus</i>	7
<i>Escherichia coli</i>	7
Others	5
Mixed	14
Sterile	14

At least five different species of bacteria were isolated from the 100 pus samples obtained from 40 patients. The predominant gram negative organism in the anaerobic group were *Bacteriod spp.*,

the Beta haemolytic streptococcus, streptococcus spp, *Staphylococcus aureus* and *Escherichia coli* was the predominant organism (Table 2).

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Three of the 40 patients suffered of a pilonidal sinus. The remaining 37 patients when reviewed had no other recurrence during the follow up period: either a further abscess or the appearance of complaints.

Table 3: Comparison of out comes in different study

	Result of <i>Ksharasutra</i> series (n=40)	Result of Incision and primary closure(Maclaren) series(n=42)	Result of Incision and drainage(Goodall) (n=41)
Failure %	0	0	0
Recurrence %	03	54	92.5
Cure %	97	46	7.5
Hospital stay(days)	0	15	11.5

DISCUSSION

The operative treatment of cutaneous abscesses by incision, primary closure and antibiotic treatment has long been advocated^(5,6,7). The large series has been conducted on the potentially debilitating condition of pilonidal abscess and previous studies have only provided small numbers

in their series. Furthermore, large scale studies on pilonidal disease rarely make a distinction between the treatment of sinus and abscess conditions and their separate outcomes.

Kshara sutra provides continuous drainage of the abscess cavity or sinus enhancing the drainage because kshara

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sutra acts as a foreign body in the sinus.⁽⁸⁾..

The antibacterial, antifungal and anti-inflammatory action of the kshara sutra has been confirmed. The effects include (a) correction of the unhealthy tissues (b) Enhancement of the healthy granulation tissue formation (c) enhancement of fibrolysis (d) separation of debris through the sinus(e) removal of debris and cleansing wound.

This study demonstrates that the results for acute pilonidal abscess closely parallels to those of pilonidal disease in general as reported in other series. Our method allows patients to be treated as day cases. Our results can be compared with the best result from a combined series of excision and primary closure.⁽⁹⁾ in which the mean hospital stay was 8.2 days. A cure of 97%, in our study, is a noticeable improvement on the techniques of kshara sutra drainage for abscesses. records a 97% cure (Table 3). In excision and primary closure for abscess and sinus disease, failure rates vary from 8.5% to 30% and recurrence rates from 1.2%.⁽¹⁰⁾ to 40%.⁽¹¹⁾.. In a combined assessment of 10 series the overall failure of primary healing was 16.9% and the recurrence rate 17.2% (13). This compares with a failure rate of 3% and recurrence rate of 13.7% in our series.

CONCLUSION

The para surgical technique is an effective treatment for the conditon, there are a number of favourable aspects to the procedure which can be classified into surgical, bacteriological, patient dependent and economic. The advantages to the surgeon include the simpilcity in technique. Acessibility for day care treatment and weekly follow-up in the ano rectal clinic. The bacteriological advantages are many. A medicated thread possess antimicrobial. It is abroad spectrum antimicrobial activity which covers most of the organisms likely to be encountered in these abscesses It also has good tissue penetration and low allergenicity. Patients prefer the technique because they are treated as day cases and usually only need to attend the ano rectal clinic of the department. Economic savings in terms of hospital stay, community nursing care, outpatient treatment and early return to work are a further bonus. When all these are considered together with a recurrence and failure rate which match the best of other methods, it leads us to recommend the technique. We conclude that these favorable points commend the technique when compared to others.

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