

Original Research Article

Comparative study of conservative management of anal fissure with warm sitz bath and warm sitz shower bath

Rajesh Kumar Rathore*

Associate Professor, Department of General Surgery, Government Medical College, Dungarpur, Rajasthan, India

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*Correspondence:

Dr. Rajesh Kumar Rathore,

E-mail: drrajeshrathore@yahoo.com

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ABSTRACT

Background: Conservative treatment of anal fissure encompasses sitz bath as the prime modality. The present study was conducted to evaluate the comparative outcome of warm sitz bath and warm sitz shower bath among the anal fissure patients.

Methods: The present study was prospective comparative evaluation of warm sitz bath and warm sitz shower bath method on 50 anal fissure patients attending the surgery department, Government Medical College, Dungarpur. The fifty patients were divided into two groups (n=25) as patients instructed with warm sitz bath and warm sitz shower bath respectively. The outcome such as pain relief, improvement in symptomatology and satisfaction were evaluated using visual analogue scale for 7 days.

Results: The mean age of patients was 31-40 years. The day 1 pain core in warm sitz bath and warm sitz shower bath was found to be 7.54 ± 0.87 and 7.87 ± 0.65 respectively. On day 7 the pain score as significantly ($p < 0.05$) reduced in warm sitz shower bath group as that of the warm sitz bath (2.67 ± 0.47 vs 4.21 ± 0.51) respectively. The patient satisfaction was significantly ($p < 0.05$) higher in patients receiving warm sitz shower bath as that of the warm sitz bath. Further, significant ($p < 0.05$) improvement in symptomatology was observed in warm sitz shower bath group as that of warm sitz bath on day 3, 5 and 7.

Conclusions: Thus, the present study suggests that warm sitz shower bath showed significant efficacy in pain relief and satisfaction as that of the warm sitz bath.

Keywords: Anal fissure, Conventional therapy, Warm sitz bath, Warm sitz shower bath

INTRODUCTION

Anal fissure is one cardinal clinical scenario responsible for acute anal pain. Clinically, it is the superficial linear tear or ulcer in the squamous epithelium of the anal canal located distal to the dentate line generally occurring in the posterior midline due to the. It generally occurs due to the hard faecal matter and also associated with other conditions like acute diarrhoea and pregnancy.^{1,2} Usually, anal fissure elicits periodic pain in the event of defecation and remains 1-2 hours post defecation.

The clinical finding of anal fissure is spasm of internal anal sphincter (IAS), which is the cardinal factor for the occurrence of pain during bowel movements and this might be also refereed as ischemia of the sphincter. In most of the cases the fissures occurs in the posterior midline since the anodermal blood flow is limited in this area than the other part of the anal canal.³

Pain due to anal fissure could be mitigated using Sitz bath, an easy method encompassing a bathtub filled with warm water. The clinician recommends performing the

Sitz bath at a frequency of 1-4 times day post defecation. The patients are advised to immerse their perineum and lower pelvis in a tub filled with warm water with or without additives for duration of 20-30 min.⁴ The Sitz bath is a relatively a safe method, but potential complications like infections and perineal burns have been reported.^{5,6} The mechanism of pain alleviation due to Sitz bath might be through neural pathway by relaxing the internal anal sphincter, leading to reduction in rectal neck pressure and internal anal sphincter electromyographic activity through a mechanism involving the thermosphincteric reflex.⁷ In this scenario, the present study was to compare the efficacy of Sitz Bath versus and Sitz shower bath in the conservative management of anal fissure.

METHODS

The present study was a comparative study carried out on patients diagnosed with anal fissures by Proctoscopy attending the Department of Surgery, Government Medical College, Dungarpur. The study was conducted during the period of April 2018-March 2019.

In this 50 patients were divided into two groups and each group consists of 25 patients.

Group I (25 cases)

Warm Sitz Bath (>30°C), twice daily for 10 minutes as instructed to the patients for 7 days

Group II (25 cases)

Warm Sitz shower bath (>30°C), twice daily for 2 minutes as instructed to the patients for 7 days.

Patients in age group 20 to 65 years presenting with acute anal fissure were included in the study. Patients less than 20 years of age and pregnant females were excluded from the study.

Sitz bath

Patients were advised to place their hips and buttocks in a tub containing plain warm water at a temperature >30°C for 10 minutes twice daily carefully drying the area after each bath for 7 days

Sitz shower bath

Patients were asked to spray the warm water at a temperature >30°C 2 minutes twice daily carefully drying the area after each bath for 7 days.

The evaluation parameters

assessment of pain was done using visual analogue pain score (VAS) from day 1-7. The patient satisfaction score was recorded using visual analogue scale after 7 days.

Further improvement in the symptomatology was also evaluated using visual analogue scale on day 3, 3 and 7. One way ANOVA was used to compare between the groups followed by Tukey's test. All procedures performed in the study were in accordance with the ethical standards of the Institute and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

RESULTS

All patients included in the study were comparable for age and sex. Majority of the patients were in the age group of 31-40 years. 55% of patients were males. Pain during defecation was the most common presenting symptom, followed by hard stools, bleeding per rectum and constipation.

The mean pain score in patients receiving warm sitz bath (Group 1) and warm sitz shower bath on day 1 was 7.54±0.87 and 7.87±0.65 respectively. On day 7 the mean pain score was found to be 4.21±0.51 and 2.67±0.47 in warm sitz bath and warm sitz shower bath respectively. Thus, the pain relief was more evident in warm sitz shower bath as that of the warm sitz bath and found to be statistically significant (Table 1).

Table 1: Evaluation of pain scores among the groups.

Days	Pain scores		P value
	Sitz warm bath (Group 1)	Sitz shower bath (Group 2)	
1	7.87± 1.27	7.27± 1.12	<0.05
2	7.05± 0.93	6.45±0.87	<0.05
3	6.52±0.85	5.84±0.76	<0.05
4	6.02±0.87	5.12±0.71	<0.05
5	5.56±0.74	4.45±0.65	<0.05
6	4.87±0.56	3.54±0.45	<0.05
7	4.21±0.51	2.67±0.42	<0.05

Visual analogue scale; 0-10, 0: No pain, 10: Agonizing pain. The data were represented mean±SEM. The comparison was made between Group 1 vs Group 2. p-value <0.05 was considered as statistically significant.

The overall patient satisfaction score assessed on day 7 was 2.89±0.52 in group 1 and 4.12±0.76 in group 2 and found to be statistically significant (p<0.05). The results were displayed in Table 2.

Table 2: Patient satisfaction score among the groups.

Patient Satisfaction Score	Sitz warm bath (Group 1)	Sitz shower bath (Group 2)	P-value
On Day 7	2.89±0.52	4.12±0.76	<0.05

Visual analogue scale; 0-5, 0- very poor, 5- excellent, The data were represented mean±SEM. The comparison was made between Group 1 vs Group 2. p-value <0.05 was considered as statistically significant.

Further, there was significant improvement in the symptomology from day 3-7 in warm sitz shower bath group as that of the warm sitz bath. The data were shown in Table 3.

Table 3: Improvement in symptomology among the groups.

Days	Improvement in symptomology		P-value
	Sitz warm bath (Group 1)	Sitz shower bath (Group 2)	
3	1.65± 0.24	2.12± 0.32	<0.05
5	2.05± 0.28	3.43±0.25	<0.05
7	2.76±0.36	4.65±0.42	<0.05

Visual analogue scale; 0-5, 0- no improvement, 5- Excellent improvement, The data were represented mean±SEM. The comparison was made between Group 1 vs Group 2. p-value <0.05 was considered as statistically significant.

DISCUSSION

Recently, warm sitz bath has been widely used as conservative therapy for the patients affected with acute anal fissure in order to mitigate the pain. The clinical utility of warm sitz bath for the treatment of anorectal disorders has not been well documented, but the clinicians still recommends this method for the patients affected with anal fissures. So, the present study was to compare the efficacy of sitz warm bath and sitz warm shower bath in anal fissure patients.

The mitigation of pain during sitz bath might be due to the relaxation of internal anal sphincter as a result there exist a decrease in rectal neck pressure. The relaxation of internal anal sphincter is primarily due to the activation of sensory perianal skin receptors by warm water. Further, the reduction in pain is also due to the 'thermosphincteric reflex'.⁷ The beneficial effect of sitz bath is that improves the hygiene and also minimizes the burning and itching as well promotes wound healing.⁸ Previous studies indicate that sitz bath displayed positive effects in reducing the infection and sepsis followed by anorectal surgery.⁹

In the present study there was effective reduction of pain episodes in anal fissure patients receiving warm sitz bath. Hot sitz bath minimizes pain by reducing the anal pressure and increases anal blood supply and thus reduces the oedema lowering anal pressure and improves anal blood circulation that relieves the congestion and oedema.¹⁰

In the present study, the symptomology of the anal fissure was effectively reduced during warm sitz bath. Our results are in corroboration with the previous study, where warm sitz bath significantly reduced the symptoms of acute posterior anal fissure than that of the lignocaine and hydrocortisone ointment.¹¹

Further, in our study the patient satisfaction was highly observed in patient undergoing warm sitz bath. A study

done by Gupta (2006) showed that patients undergone sitz bath have exhibited greater satisfaction as that of the control patients.¹²

In addition, This study have compared two methods of sitz bath namely warm sitz bath and warm shower bath. The warm shower bath showed significant pain reduction on day 7, patient satisfaction and improvement of symptomatology on day 3, 5 and 7. A study conducted by Hsu et al, showed that water spray method showed a higher satisfaction rate as that of the sitz bath. Further, the patients who are instructed for water spray reported greater convenience as that of patients instructed for sitz bath. However, regarding pain relief, there is no statistical significance between water spray and sitz bath.¹³

CONCLUSION

Thus, in conclusion, warm sitz shower bath showed effective pain relief, improvement in symptoms and satisfaction as that of the warm sitz bath among the anal fissure patients.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Richard LN. Medical treatments are only marginally better than placebo, but surgery may cause incontinence. *BMJ*. 2003;327(354):e355.
2. Beatty JS, Shashidharan M. Anal Fissure. *Clin Colon Rectal Surg*. 2016;29(1):30-7.
3. Schouten WR, Briel JW, Auwerda JJ. Relationship between anal pressure and anodermal blood flow. The vascular pathogenesis of anal fissures. *Dis Colon Rectum*. 1994;37(7):664-9.
4. Lang DS, Tho PC, Ang EN. Effectiveness of the Sitz bath in managing adult patients with anorectal disorders. *Jpn J Nurs Sci*. 2011;8(2):115-28.
5. Kahraman A, Karaca K, Etoz A, Ozcan M. Perianal burn as a complication of hemorrhoid treatment caused by hot water sitz bath. *Burns*. 2004;30(8):868-70.
6. Tejirian T, Abbas M A. Sitz bath: Where is the evidence? Scientific basis of a common practice. *Dis Colon Rectum*. 2005;48(12):2336-40.
7. Shafik A. Role of warm-water bath in anorectal conditions: The thermosphincteric reflex. *J Clin Gastroenterol*. 1993;16(4):273-4.
8. Gupta PJ. Effects of warm water sitz bath on symptoms in post anal sphincterotomy in chronic anal fissure-A randomized and controlled study. *World J Surg*. 2007;31(7):1480-4.
9. Goto S, Mori M, Fukaya Y, Nakamura K. Nursing measures against adverse reaction from anti-cancer chemotherapy. *Nippon Rinsho*. 2003;61(6):943-8.

10. Yang HK. Special Consideration and Contraindications of Hemorrhoidectomy. In: Hemorrhoids. Springer, Berlin, Heidelberg; 2014: 119-120.
11. Jensen SL. Treatment of first episodes of acute anal fissure: prospective randomized study of lignocaine ointment versus hydrocortisone ointment or warm sitz bath plus bran. *Br Med J.* 1986;291(6529):1167-9.
12. Gupta P. Randomised controlled study comparing sitz bath and no-sitz-bath treatment in patients with acute anal fissures. *ANZ J Surg.* 2006;76(8):718-21
13. Hsu KF, Chia JS, Jao SW, Wu CC, Yang HY, Mai CM, et al. Comparison of clinical effects between warm water spray and sitz bath in post-hemorrhoidectomy period. *J Gastrointest Surg.* 2009;13(7):1274-8.

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