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Comparative Study of Hot Sitz Bath and Non Sitz Bath in Management of Anal Fissure at Tertiary Care Centre in Mumbai

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Abstract **Original Research Article**

A sitz bath is type of bath in which only hips and buttocks are soaked in water or saline solution. Aim of the study to determine the efficacy of sitz bath in acute anal fissure. A total 60 cases were taken as study population. Target populations were OPD basis patient suffering from anal fissure. Detail consent was taken from patient. Among that target population, 2 groups were made on randmonisation, one as Hot Sitz Bath (HSB) (30) and Non Sitz Bath (NSB) (30). There were no significant changes in pain and itching. Bleeding was significantly decreased in 4th week hot sitz bath study group (6.7%) as compared to non sitz bath control group (36.7%). Similarly there was significantly decreased in bloating in 4th week hot sitz bath group (10%) as compared to non sitz bath control group (43.3%). Healing was significantly improved in 4th week hot sitz bath group(66.7%) as compared to non sitz bath control group (16.7%)also it was statistically significant (X^2=15.429 p=0.000).
Keywords: Hot sitz bath, non sitz bath, anal fissure.

INTRODUCTION

An anal fissure is a linear ulcer in the lower half of the anal canal and extends from just below the dentate line to the margin of the anus (anal verge). The ulcer may be acute, recurrent or chronic and may occur alone or with other rectal disease, most commonly haemorrhoids [1, 2].

Primary fissures are classically benign and are likely to be related to local trauma such as hard stools, vaginal delivery, prolonged diarrhea, repetitive injury or penetration. Secondary fissures are found in patients with previous anal surgical procedures, granulomatous diseases (e.g. tuberculosis, sarcoidosis) inflammatory bowel disease (e.g. Crohn's disease), infections (e.g. HIV/AIDS, syphilis) or malignancy [3].

An anal fissure is one of the chief causes of anal pain; in the acute case it is severe enough to incapacitate the patient. In fact it is a disease of the anus which causes an amount of suffering out of proportion to the size of the lesion. It is common in both the sexes and is encountered in young or middle aged adults, but is sometimes seen at other ages including infancy and early childhood.

Anal fissures can also be defined by location. Most of these are located at the back (known as posteriorly), although they can also be located at the front (anteriorly) or at the sides. Anal fissures can also be located in more than one location. The location may give a clue to the cause of the anal fissure - for example a fissure located at the sides may be more likely due to Crohn's disease.

An anal fissure is typically found in the posterior midline just within the anal verge. More than 98% of fissure in males and nearly 85% in females occur in this way.

The sitz bath is a partial immersion bath of the pelvic region. It is more easily given in a specially constructed tub, but may also be effectively done in regular bath tub. Sitz bath may be hot, cold, neutral or contrasting hot and cold. The primary effect of the hot sitz bath is analgesic hydrotherapy [4]. Frequent Sitz baths are comforting and help to reduce the sphincter spasm [5-8]. The effect of using sitz bath among anorectal disorders is not congruent and no analysis has been done to examine the evidence using a systematic approach. Therefore, this systematic review intends to investigate the effectiveness of sitz bath with anorectal disorders in order to generate the best available evidence for the clinicians and patients.

MATERIALS AND METHODS

The Study was randomized and controlled clinical trial. It was approved by local ethical committee and was carried out in department of General Surgery at Seth G S Medical College and King Edward Memorial Hospital Parel Mumbai from December 2009 to November 2011. A total 60 cases were taken as study population. Target populations were OPD basis patient suffering from anal fissure. Detail consent was taken from patient. Among that target population, 2 groups were made on randmonisation, one as HSB-Hot Sitz Bath (30) and NSB-Non Sitz bath (30). HSB group were properly explain about sitz bath and proper advice regarding the diet also given to patients. In non HSB group, no sitz baths were advised but other advised related to diet were given. Both the groups were advised follow up for 4 weeks. The proper analyses of symptoms were done on subjective criteria such as severe, moderate and less. Also cure was defined as resolutions of all symptoms of anal fissure and resolutions of lesions and Failure: Persistent of symptoms after 4 weeks. Demographic and clinical presentation data were compared by Mann–Whitney U-test or Fisher's exact test as deemed appropriate. Paired weekly pain scores were compared using multiple unpaired t-tests with Levene's test for equality of variances. Patient's satisfaction score was tested using a v2 test. A P-value less than 0.05 were considered significant.

OBSERVATION AND RESULTS

In our study, patients were assessed at baseline for demographic distinctiveness. We observe no significant variation in these variables between the two groups (Figure 1). No intraoperative or postoperative complications were noted. No patient was excluded for violation of the treatment procedure; nor was any patients lost to follow-up, and data collection was complete. Age and sex distribution were given in Table no.1 and 2.

Pain- There was no significant difference between decreased in pains in both the groups. Pain was present upto 2 week and substantially decreases in 4 week (Table no.3). Itching- We observed decrease in itching in both study and control groups. But there was no significant difference in both groups. (Table no.4)

Bleeding- There was significantly decreased bleeding in study group in 3 week as compared to control group. In study groups 2(6.7%) was significantly less as compared to those from control groups 13(43.3%). A similar significant finding was observed at the end of 4th week where 6.7% of subjects from study groups were having bleeding as compared to 36.7% of subjects from control groups.(X^2=15.429 p=0.000) (Figure no.1).

Bloating- there was significant decreased in bloating in study group in 4th week, 10% of subjects from study groups were having bloating as compared to 43.3% from control groups. (X^2=8.523 p=0.004) (Figure no.2).

Healing-In our study, we noted that, healing was observed in both the groups from 2nd week onwards. At the end of 2nd, 3rd and 4th weeks the proportion of subjects from study groups with healing (14, 46.7%) (20, 66.7%) (20, 66.7%) respectively which were significantly more as compared to control groups (2, 6.7%) (6, 20.0%) (5, 16.7%) This difference was statistically significant (X2=15.429 p=0.000) (Figure no.3).

Complication- we noted complications in 5 cases among which 4 were in HSB group and one in Non HSB group. (Figure no.4)

Cure rate- considered in both groups the statistically significant difference p=0.000 X^2=17.376 was highly significant. The cure rate in study groups was (25, 83.3%) as compared to control groups (9, 30.0%) (Table no.5).

Table-1: Showing the distribution of age in cases of anal fissure

	Group	N	Mean	Std. Deviation	t	P value	Significance
Age	HSB	30	32.67	12.347	-.401	0.690	Not significant
	NSB	30	34.00	13.357			

Table-2: showing the distribution of cases of anal fissure as per sex

		Group		Total
		HSB	NSB	
Sex	Female	10	9	19
		33.3%	30.0%	31.7%
	Male	20	21	41
		66.7%	70.0%	68.3%
Total		30	30	60
		100.0%	100.0%	100.0%

Table-3: Showing the week-wise pain symptom comparison between study (HSB) and control (NSB) groups

PAIN	Group		Total	χ^2	P value	Significance
	HSB (n=30)	NSB (n=30)				
Week 1	30	30	60	----	----	----
	100.0%	100.0%	100.0%			
Week 2	30	30	60	----	----	----
	100.0%	100.0%	100.0%			
Week 3	29	23	52	5.192	0.023	Significant
	96.7%	76.7%	86.7%			
Week 4	12	18	30	2.400	0.121	Not significant
	40.0%	60.0%	50.0%			

Table-4: Showing the week-wise itching symptoms comparison between study (HSB) and control (NSB) groups

Itching	Group		Total	χ^2	P value	Significance
	HSB (n=30)	NSB (n=30)				
Week 1	29	23	52	5.192	0.023	Significant
	96.7%	76.7%	86.7%			
Week 2	12	7	19	1.926	0.165	Not significant
	40.0%	23.3%	31.7%			
Week 3	3	1	4	1.071	0.612	Not significant
	10.0%	3.3%	6.7%			
Week 4	0	0	60	----	----	-
	0.0%	0.0%	0.0%			

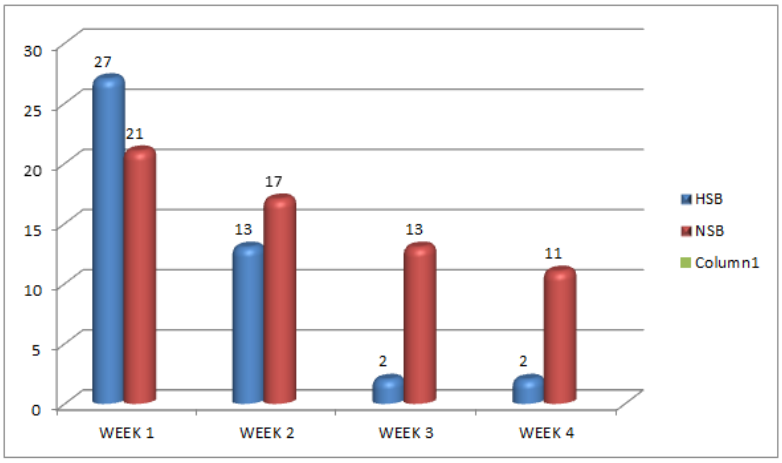

Fig-1: Showing the week-wise bleeding symptom comparison between study (HSB) and control (NSB) groups

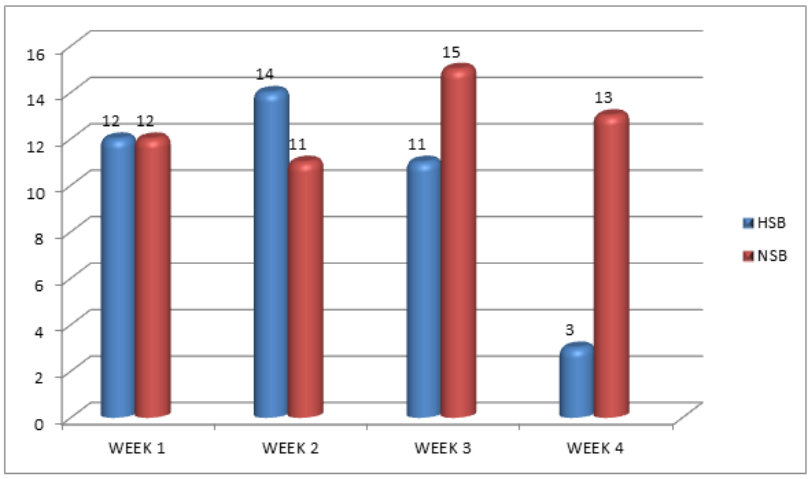

Fig-2: Showing the week-wise bloating symptom comparison between study (HSB) and control (NSB) groups

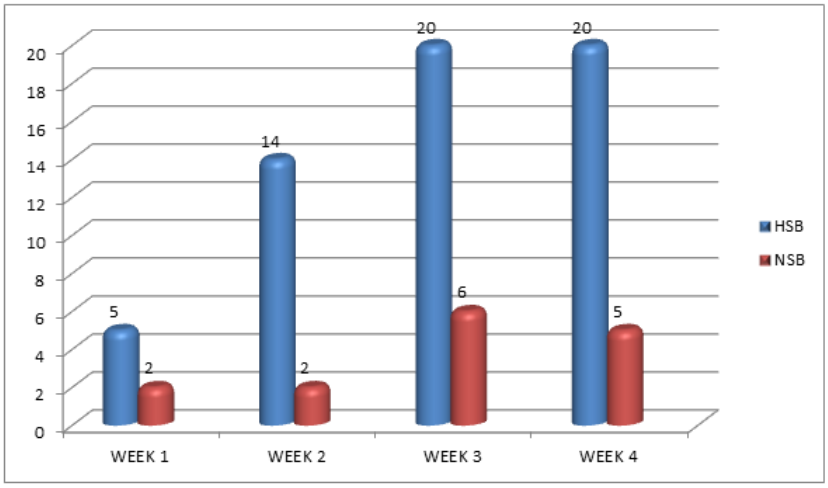

Fig-3: Showing the week-wise healing symptom comparison between study (HSB) and control (NSB) groups

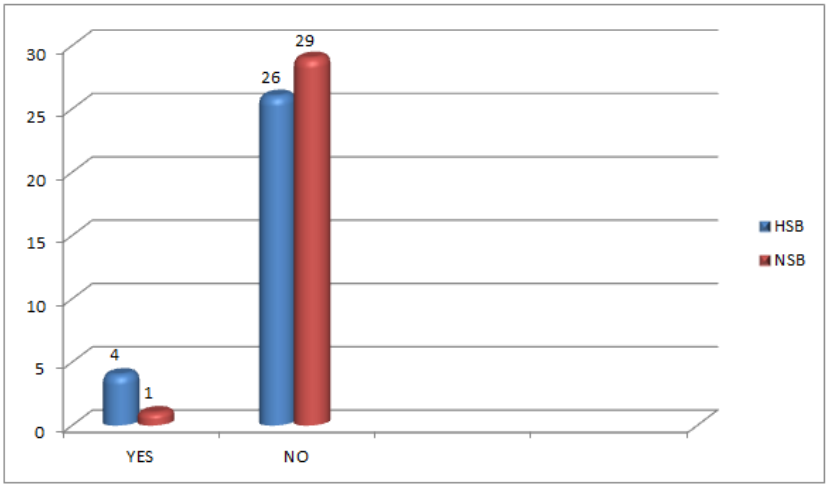

Fig-4: Showing the distributions of complication in treatment of anal fissure

Table-5: Showing the cure rate in HSB and NSB group

		Group		Total
		HSB	NSB	
Result	Cure	25	9	34
		83.3%	30.0%	56.7%
	Failure	5	21	26
		16.7%	70.0%	43.3%
Total		30	30	60
		100.0%	100.0%	100.0%

DISCUSSION

Even though no scientific evidence is available to indicate that sitz baths can support faster healing or offer reduction in postoperative complications, it is probably frequently recommended because of the low morbidity it carries [9]. Furthermore, the other perceived benefits include improved anal hygiene and symptomatic relief for some patients [10]. The precise physiology of sitz baths is not known. It has been theorized that pain relief after a sitz bath could be the consequence of internal anal sphincter relaxation with a resulting increased of the rectal neck pressure [11]. Shafik [8] noted a decrease in internal sphincter pressure during a sitz bath. He noted that warmer water led to a longer duration of low internal sphincter pressure. He theorized that the relaxation of the internal sphincter muscle is mediated through sensory perianal skin receptors getting stimulated by warm water. The decrease in spasm and pain relief was attributed to this 'thermosphincteric reflex'. However, the study by Pinho *et al.* [12] reported no relaxation of anal sphincters after a hot sitz bath. Spitzbart H, Scharner W [13] shows that effect of hot and cold sitz baths on normal subjects and patients with anorectal disorders. The patients with anorectal disorders witnessed a greater decrease in anal pressure and they sustained this decrease up to 30 min after ending the bath. No change was seen in either group taking bath with water at room temperature or a cold bath. It was found that a hot water sitz bath produced relaxation of internal urethral sphincter, causing vesical contraction and eased urination in patients operated for haemorrhoidectomy.

In present study there was no significant change observed in pain and itching in study and control group. Bleeding was significantly decreased in study group (6.7%) as compared to control group (36.7%). Healing was significantly improved in study group at the end of 2nd, 3rd and 4th weeks the proportion of subjects from study groups with healing (14, 46.7%) (20, 66.7%) (20, 66.7%) respectively which were significantly more as compared to control groups (2, 6.7%) (6, 20.0%) (5, 16.7%) This difference was statistically significant (X2=15.429 p=0.000) (Figure no.6).

However, Gupta P [14] studied the effect of randomized sitz bath and no sitz bath in patients of anorectal disorders. There was no difference in the fissure healing rate between the group receiving sitz baths and those not receiving it. Similarly, no significant difference was noticed in the pain scores between the two groups. Although the administration of sitz baths was associated with occasional side-effects like perianal skin rash, there was no incidence of perianal burns as reported by few others? It is possible that the results were influenced by variation among patients in the temperature or duration of the sitz bath. However, because a standard method of sitz bath was meticulously advised to our patients, it is believed that it was unlikely that violation of the protocol might have occurred in case of this study [16]. The weekly follow up of the patients provided an accurate assessment of pain and fissure healing.

A sitz baths is commonly prescribed but proper instructions as to how to carry it out are rarely given to patients. We could find only one article reported in the Japanese published work that stressed on exact instructions for sitz baths for patients suffering from anorectal disorders [17]. Although many different bath methods have been described, there has hardly been any significant variation from the original description[18].

CONCLUSION

Incidence of anal fissure was found to be maximum in age group of 20-35 Male predominated in both groups' study as well as control groups. Incidence of Bloating was found to be maximum in age group of 35-60. Hot Sitz Bath decreased bleeding and helped faster healing as compared to Non Sitz Bath. Also Hot Sitz Bath decreased bloating sensation. Pain and Itching is not much affected by both groups. Complications were seen in 4 patients in Hot Sitz Bath and 1 patient in Non Sitz Bath out of 30 each. In Hot Sitz Bath 25 patients were cure while in Non Sitz Bath 7 patients were cure.

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