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General Surgery

COMPARATIVE STUDY OF HOT SITZ BATH WITH SLOW COLD JET IN POST OPERATIVE PERINEAL WOUNDS

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ABSTRACT **Introduction-** It has been a long-standing tradition since the beginning of time to apply heat in the form of hot water, steam, or wet towels on painful areas. An another option in tropical areas is the application of cold water or ice. The perineal area can be operated on using modern procedures like a warm water or ice-cold bath. Warm water sitz bath in tub is quite commonly advised by surgeons to their patients for the care of post operative perineal wounds. **Objective-** Comparative Study Of Hot Sitz Bath With Slow Cold Jet In Post Operative Perineal Wounds **Material And Methods-** This is a hospital based observational comparative study. A total of 120 patients were selected, with 60 in each group being matched according to choice of wound cleansing method. Group A, which included 60 cases, was instructed to wash the surgical wound while seated in a warm water tub, while Group B was instructed to wash the surgical wound while using a slow, cold jet of water. In each group, an equal number of LIS and hemorrhoidectomy cases were chosen, and case to case comparisons were made based on factors such as pain, post operative complications, and hospital stay. There was no modification to the rest of the treatment, including antibiotics, dressings, etc. **Results-** Apart from the fact that a sizable portion of patients found the warm water tub technique to be inconvenient, there was no discernible change in other parameters like pain, wound healing, post operative complaints, treatment duration and hospital stay. According to the degree of convenience reported by the cases in both groups, in our study, 96.67% of cases reported feeling convenient with a gradual cold jet while only 78.33% patients in hot sitz bath group found it convenient. Additionally, this statistically significant difference in the number of cases indicates that the gradual cold jet is more convenient than the hot sitz bath. **Conclusion-** cleaning with a slow jet after perineal surgery, It is equally helpful in promoting bowel movement, pain alleviation, and wound healing. Many patients find the hot water tub, which is still commonplace, to be burdensome. Additionally, the patient thinks that his privacy has been violated because he constantly needs an assistant's assistance. Slow cold jet cleansing is easy to perform and dose not need any assistance hence patients found it more convenient than hot sitz bath.

KEYWORDS : Hot sitz, Slow cold Jet, Perineal wounds, Comparative

INTRODUCTION

It has been a long-standing tradition to apply heat or cold fomentations to inflamed or wounded areas. A tender hand and changes in body temperature were thought to be excellent healing remedies. As society changed owing to consumerism and greed, only the temperature component remained. Along with surgery and medicine, the hot sitz bath has its roots in the frigid western culture.[1] As a substitute, cold washing with a jet, which is common in developing nations, can be extremely beneficial for cleansing and calming because temperatures are typically close to body temperature.

The majority of middle class and lower middle class individuals today have an ablution jet fitted to their toilet commodes, eliminating the need for any further costs.[2] Additionally, the patient need not transfer to the tub to wash his or her perineum after passing a bowel movement. He can only cleanse his wound with cold water while seated on the toilet. His anonymity is entirely protected in this way. The burdensome habit of sitting in a hot tub has been eliminated by this study. Many patients don't fully comprehend the technique and end up performing it incorrectly or maybe not performing it at all. It's really straightforward and easy to explain the cold jet method.

AIMS AND OBJECTIVE

Aim

- Comparative study of hot sitz bath with slow cold jet in post-operative perineal wounds.

MATERIAL AND METHOD

- Place of Study; The study was conducted in (Dept. of General Surgery) at Maharishi Markandeshwar Institute of Medical Sciences and Research Mullana Ambala.
- Sample Size _ 120 patients
- Study Design _ Hospital based observational comparative study
- Duration _ One and a half year

Inclusion Criteria

Patient aged 18-75 years of age.

- Post operative cases of hemmorhoids, anal fissure, anal fistula, pilo nidal sinus and episiotomy wounds.
- Patients who understand the informed consent

Exclusion Criteria

- Patients who undergone perineal surgery previously.
- Patient with inflammatory bowel diseases.
- Patient with other co morbid conditions like diabetes, hypertension, tuberculosis.
- Patients who refused to participate in study.

METHOD

- The total number of patients included were 120 which are divided in 2 groups. 60 patients in group-A and 60 in group-B. Equal numbers of cases of particular surgery were matched with same number of same surgery in another group to avoid procedural disrepancy.
- The following patient characteristics were analyzed: age at diagnosis, gender and other demographic details of patients were recorded.
- Group-A involving general treatment rules and were recommended to take hot sitz bath and Group-B involving same rules but with the recommendation of taking slow cold jet for cleansing. All patients included in the study were given the same analgesic regimen. Patient were followed up on OPD basis to assess the wound healing and post operative pain.
- Patients were followed-up with at the outpatient department at 2-week intervals until complete healing of the perineal wound. Then, follow-ups were scheduled for 4-weeks intervals.

Data Analysis

- During data collection, complete performa (questionnaires) will be regularly checked to rectify any discrepancy, logical error, or missing information.

- The data will be analyzed by specific statistical method applicable to the various sets of data. All the statistical methods will be performed through SPSS for windows version 20.
- Microsoft word and Excel will be used to generate graphs and table. All data of various groups will be tabulated and statistically analyzed using suitable statistical tests.

PARAMETERS	GROUP A	GROUP B
PAIN	1/60	1/60
POST OP HOSPITAL STAY (DAYS)	5.25	5.08
CONVENIENCE	78.33%	96.67%
POST OP COMPLICATIONS	5/60	3/60
PAIN AND PRURITIS AT 2 WEEK FOLLOW UP	6/60	2/60

DISCUSSION

Although clinical practice guidelines[3] recommend the use of warm water sitz baths for the treatment of pain in post operative perineal wounds for its known effect on resting anal pressure, but popular belief encourages the use of cold water baths.

In our study, the mean age of patients in hot sitz bath group was 40.68 years with majority of patients were in age group of 41-50 years (30%) while mean age of patients in slow cold jet group was 43.8 years with majority of patients were in age group of 31-40 years (28.33%). There were 75% males and 25% females in hot sitz bath group. In slow cold jet group, there were 73.33% males and 26.67% females. Statistically there was no significant difference in distribution of gender among both groups (P-value 0.8347).

Here, we found that the difference in distribution of cases according to residence (P-value 1.0), according to procedure done (P-value 1.0) and as per presenting complaints (P-value 1.0) were not statistically significant.

In our study we find that mean duration of hospital stay in hot sitz bath group was 5.24 days and in group using slow cold jet was 5.08 days. The difference was statistically not significant with respect to duration of hospital stay (P-value 0.3229). We also did not find statistically significant difference in pain score (P-value>0.05) and post-operative complication (P-value 0.5815) in both groups. However, in hot sitz bath group 5 cases had post-operative complication (2 cases had wound infection and 3 cases had pruritis) and in slow cold jet group 3 patients had post-operative complications (1 each had wound infection, dehiscence and pruritis)

Droegmuller's[1] study examined postpartum perineal pain, as that group of patients was also advised to take sitz baths. Through his study, Droegmuller[1] showed that there was a greater analgesic effect with cold water perineal baths, although it is clear that postpartum perineal pain has a different pathophysiological origin than that of acute anal pain caused by anorectal disease. Ralmer and Roberts[4] in 1986 established that cold sitz baths were significantly more effective in relieving perineal pain and greatest amount of pain relief was experienced immediately after the cold sitz baths. Nam and Park[5] in 1991 also studied the effect of different temperatures in different forms and established that ice bag application was far more effective than heat light in reducing perineal pain in episiotomy wounds. A more recent study compared the analgesic effect of treatment with and without sitz baths in patients with anal fissure through a randomised clinical trial. The authors showed that there was no significant pain relief or wound healing in patients taking warm water sitz baths, although there was greater overall patient satisfaction[6].

According to convenience level of cases in both groups in our study 96.67% observed convenience in slow cold jet compared to 78.33% cases observed convenience in hot sitz bath. And, this difference in statistically significant with higher number of cases feels more convenience in slow cold jet compared to hot sitz bath (P-value 0.0023).

This high convenience level in cold sitz bath may be because the cold-water immersion blunts the sensory stimulus, thus significantly reducing the pain and delays increment in circulating testosterone and cytokines post resistance exercise[7]. The warm water exercise on the contrary appears to stimulate and accumulate more immune cells compared to cold water[8]. In Hsu et al[9] study of year 2009 the outcome showed that water spray technique might offer a secure and dependable replacement for the sitz bath for post hemorrhoidectomy therapy which is a more practical and effective treatment option than sitz bath as it is easy to perform.

Similarly Randhwa et al[10] performed a study in 2018 including 60 patients which stated that a slow jet washing is similarly beneficial at promoting wound healing, bowel movement and pain relief following perineal surgery and more patient found jet spray method as a better alternative to warm water sitz bath.

It has been hypothesized that the pain relief after sitz bath could be the result of internal anal sphincter relaxation, with a resulting diminution of the rectal neck pressure. A decrease in the internal sphincter pressure during the sitz bath has been observed. It is postulated that the relaxation of the internal sphincter muscle is mediated through sensory perianal skin receptors getting stimulated by warm water. The decrease in the spasm and pain relief is attributed to this 'thermo- sphincteric reflex'. The same mechanism also has been proposed for relaxation of the internal urethral sphincter to induce urination in patients after anorectal operations[11]. The perceived advantages of sitz bath include improvements in hygiene, relief of discomfort such as burning sensation or itching, and wound healing. In addition, sitz bath has been reported as beneficial for limiting infectious disease and preventing sepsis following surgery[12].

Thus, in our study in comparison with hot sitz bath, slow cold jet was equally effective in relieveing pain, patient had almost same hospital stay but more patient found great inconvenience in performing hot sitz bath than slow cold jet. So as per current study slow cold jet spray should also be kept as an alternative supportive therapy in post operative perineal wounds as it is easy to perform without any assistance.

CONCLUSION

As per our study while comparing hot sitz bath and slow cold jet spray in post operative perineal wounds found that there is no difference in duration of hospital stay, pain relief and post operative complications. However slow cold jet spray was more convenient to patients than hot sitz bath. According to the results of the current study, slow cold jet spray should also be kept as a supportive therapy alternative in post-operative perineal wounds because it is less cumbersome to perform without assistance.

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