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Original Research Article

A Prospective Clinical Research to Compare the Notion of A Heated Sitz Bath Verses Standard Room Temperature Sitz Bath in Perineal Wound Healing

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Abstract

Aim: The aim of this retrospective study is to compare the effect of warm versus regular room temperature sitz bath. **Method:** This was a prospective clinical study conducted in the Department of General Surgery, Madhubani Medical College and Hospital, Madhubani, Bihar, India for 1 year. Total 80 patients comprising cases of haemorrhoids, fissure, perianal fistula, pilonidal sinus, perianal abscess and episiotomy wounds in the age group of 18 years to 58 years were include in this study. A set protocol of medical line of management was made for all the patients in the form of 5 days course oral antibiotics, metronidazole, H_2 blocker along with 3 to 5 days course of analgesic and ointment for local application. All the patients were asked to practice seitz bath of their choice by warm water or regular room temperature seitz bath with added povidone iodine solution 3 to 4 times in a day till the wound heals completely and the patient gets the desired pain relief. **Results:** out of 80 patients, 45 patients (56.25%) in the study group opted for warm water seitz bath as compared to 35 patients (43.75%) of regular water seitz bath from the 3rd day of surgery onwards. All the 35 patients operated for pilonidal sinus, perineal abscess and perianal fistulectomy were found to have significant discomfort in the initial 15 days to 21 days due to discharge from the wounds. But all the patients got satisfactory results with respect to the reduction in the amount of smell and discharge from wound after a period of 15 days to 21. Adequate wound healing was achieved over a period of 8 to 10 weeks in all the 35 patients of fistulectomy, perineal abscess and pilonidal sinus excision depending upon the size of the tissue defect and severity of infection. **Conclusion:** The frequency of seitz bath and subsequent improvement in the local hygiene definitely give comfort to the patient and speeds up wound healing.

Keywords: Sitz bath, Perineal wound healing, Duration of recovery, Hygiene.

Introduction

Hydrotherapy is a field that pursues disease treatment or health effects using various properties of water for therapeutic purposes and is used synonymously with water therapy, aquatic therapy, pool therapy, and balneotherapy (hot spring and spa)[1]. The types of hydrotherapy are typically classified according to the various states of the water (liquid, solid, gas, or mixed state), but can also be classified according to the mechanical stimulation used, such as whirlpool, or the materials mixed with the water, such as mud[2]. Hydrotherapy is a therapeutic modality that maximizes the characteristics and advantages of water and is considered in clinical and alternative medicine to have an excellent therapeutic effect, with few adverse effects[3]. Water offers various advantages, including being abundant; not physiologically irritating; and having an excellent solvency, excellent viscosity, high heat capacity, and high heat conductivity. In addition, the density of pure water is similar to the average density of the water present in the human body, although it varies slightly, depending on body parts or temperature changes. The health effects of hydrotherapy generally appear as thermal, mechanical, and chemical effects, either alone or as mixed effects. Thermal effects are elicited via heat (35–40^{0}C), body temperature (32–34^{0}C), or cold (8–10^{0}C) therapy. Heat therapy is typically explained by vasodilation and blood flow facilitation effects, while cold therapy is typically explained by vasoconstriction and pain reduction effects. Mechanical effects can be explained by the properties of water, such as buoyancy, hydrostatic pressure, and resistance, where the effect primarily appears when hydrotherapy is provided via immersion therapy. Buoyancy represents the force that opposes gravity, and when the body is partially or fully immersed, pain reduction and improvement in exercise ability occur due to the reduction of stress or application of weight to specific body parts. Hydrostatic pressure promotes blood flow by varying the pressure exerted on the body according to the immersion depth, which results in increased blood flow to major organs (the heart, brain, and lungs) or the promotion of diuretic action[4]. Resistance is the force that opposes bodily movement and is associated with the viscosity of the water and results in muscle strengthening. Chemical effects result from minerals, drugs, ions, oxygen, mud, and herbs added to pure water, which triggers chemical reactions on the skin to improve skin integrity and immunity[5]. Moreover, when hydrotherapy is conducted in ocean or mountain areas, the environmental effects can further enhance the psychological effects. Combining complimentary alternative therapies, such as massage, relaxation, music, or aromatherapies, can also induce health effects by increasing the body's natural healing ability[6]. Exercise therapies or physical activities in water, including swimming, walking, and aerobics, are also combined for the purpose of physical therapy. Anorectal disorders include a diverse group of pathological disorders that generate significant patient discomfort and disability[7]. Despite the fact that the exact nature and cause of the conditions is known, the standard conservative treatment options are still a matter of debate. Anal Fissure is a linear ulcer in the squamous epithelium of the anal canal located just distal to the dentate line occurring usually in the posterior midline. It causes severe pain with spasm of the anal canal due to hypertonia of the internal anal sphincter[8]. Pain that is related to anorectal disorders could be relieved with the use of a Sitz bath, a relatively easy procedure that involves filling a bath tub with warm water[9]. An additive, such as salt, may be used occasionally[10]. The clinician usually orders a Sitz bath to be carried out one-to-four times per day, plus after defecation. Generally, the patients are instructed to immerse their perineum and lower pelvis in a tub of warm water with or without additives for 20–30 min. Although the preparation of a Sitz bath is easy, some

patients might feel that Sitz baths are troublesome, rather than a necessity, to their treatment. This might be due to the underlying medical condition that is aggravated by pain and exhaustion. The Sitz bath is a relatively safe procedure. However, potential complications have been reported, such as infection and perineal burn[11,12]. The spread of infection was due to the sharing of bathtubs between patients[12]. Although the effect of using a Sitz bath for anorectal disorders has not been established yet, clinicians still prescribe Sitz baths for patients with anorectal disorders. From clinical observation, the clinical impact of the Sitz bath has been unclear. Patients with anorectal disorders often have improved and their wounds were healed, regardless of their adherence to a strict Sitz bath regimen. No analysis has been conducted to examine the evidence with a systematic approach.

Material and methods

This was a prospective clinical study conducted in the Department of General Surgery, Madhubani Medical College and Hospital, Madhubani, Bihar, India for 1 year. after taking the approval of the protocol review committee and institutional ethics committee.

Methodology

Total 80 patients comprising cases of haemorrhoids, fissure, perianal fistula, pilonidal sinus, perianal abscess and episiotomy wounds in the age group of 18 years to 58 years were include in this study. Patients with comorbid conditions and immunocompromised medical disorders like diabetes, tuberculosis, HIV are excluded for study. A set protocol of medical line of management was made for all the patients in the form of 5 days course oral antibiotics, metronidazole, H2 blocker along with 3 to 5 days course of analgesic and ointment for local application. All the patients were asked to practice sitz bath of their choice by warm water or regular room temperature seitz bath with added povidone iodine solution 3 to 4 times in a day till the wound heals completely and the patient gets the desired pain relief. The patients were from middle to lower socioeconomic class. The patients who opted geyser for warm seitz bath were from middle socioeconomic group who had easy accessibility to warm water. The patients from poor socioeconomic class mainly selected for regular room temperature sitz bath.

Follow-up assessment

The patients were evaluated in view of reduction in postoperative pain till 12 days. In addition, 15 days follow up assessment about perineal itching, patient comfort in lifestyle in view of discharge from wound and significant reduction in size of the wound or healing status of wound was done.

Results

It is patient's psychological behavioral pattern to opt or choose for fomentation by warm object to reduce pain. Moreover, there is a general tendency to believe that warm water has better cleansing property as compared to regular water. The 45 patients (56.25%) in the study group opted for warm water seitz bath as compared to 35 patients (43.75%) of regular water sitz bath from the 3rd day of surgery onwards. The cases who opted for regular water seitz, were in poor socioeconomic background, due to easy and frequent availability of regular water as compared to warm water. All the 10 cases of episiotomy (12.5%) wounds repaired by gynaecologist opted warm water sitz only. After excluding the 10 cases of episiotomy, there was equal selection choice among warm and regular sitz bath cases. The choice of selection of sitz bath basically depends upon patient's discussion with past treated cases of similar disease, educational background, socioeconomic status in the society and treating surgeon's advice.

Table 1: Distribution of cases (Group A)

Type of perineal surgeries	Number of cases=45	%
Hemorrhoids	7	15.56
Fissures in ano	7	15.56
Fistula in ano	7	15.56
Perineal abscess	7	15.56
Pilonidal sinus	7	15.56
Episiotomy	10	22.22

Table 2: Distribution of cases (Group B)

Type of perineal surgeries	Number of cases=35	%
Hemorrhoids	7	20
Fissure in ano	7	20
Fistula in ano	7	20
Perineal abscess	7	20
Pilonidal sinus	7	20

The patients were assessed for the amount of pain relief 72 hours after the surgery. All the patients were prescribed non-steroidal analgesic for 3 to 5 days. The fissure in ano cases were operated by fissurectomy and lateral sphincterotomy to minimize the pain around the operative site. Out of 10 operated cases 4 had severe postoperative pain and 6 had moderate pain in the initial 3 to 5 days of postoperative period. All the 80 cases of perineal operated cases had total pain relief, comfortable and without any analgesic within a 12 days period. The severity and duration of postoperative pain also depend upon the stage in which the patient presented with that particular disease and the extent of tissue dissection during the surgery. There was no deterioration in the progress of wound healing in any of the 80 cases who were maintaining adequate hygiene of the local wound by seitz bath of any type. The patients were able to get seitz bath 3 to 5 times a day depending upon the availability of water at home and presence of family members at home. It was also noticed that the patients used to reduce the number of seitz bath in a day usually after a period of 15 days on absolute reduction in the symptoms of pain and the amount of discharge.

All the 35 patients operated for pilonidal sinus, perineal abscess and perianal fistulectomy were found to have significant discomfort in the initial 15 days to 21 days due to discharge from the wounds. But all the patients got satisfactory results with respect to the reduction in the amount of smell and discharge from wound after a period of 15 days to 21. Adequate wound healing was achieved over a period of 8 to 10 weeks in all the 35 patients of fistulectomy, perineal abscess and pilonidal sinus excision depending upon the size of the tissue defect and severity of infection.

Discussion

Historically, the use of sitz bath to improve the blood circulation can be traced to early 19^{th} century as part of the old European tradition. Today, sitz bath has been a commonly used conservative therapy for patients with acute anal fissure to relieve symptoms like pain. Although the effect of using sitz bath in anorectal disorders has not been established yet, clinicians still prescribe sitz baths for patients with anal fissure and other anorectal disorders. The clinical impact of sitz bath has been unclear. Patients with anal fissure often showed improvement and fissures healed regardless of the adherence to a strict sitz bath regimen. There has been no rigid analysis conducted to examine the evidence

using a systematic approach[13]. Some case study published in the current literature about the efficacy of sitz bath in view of reduction of actual pain and speed of wound healing and overall comfort of the patient[12]. There is no conclusive evidence to support that a particular type of hydrotherapy accelerates wound healing, healing of stretched skeletal muscle and reduces pain at operative site[14]. It is reported that there is no difference in efficacy of result of seitz bath by cold or hot seitz bath. There is no definitive protocol or guidelines reported with evidence about the type of hydrotherapy with required temperature, its duration and frequency of body part immersion[15,16]. There are no publication suggesting the usage of any specific antiseptic solution speeds up the process of wound healing. There is no documentary evidence stating the practice of any particular type of sitz bath accelerates the wound healing and its effectiveness in the pain relief. It is reported that the cold-water immersion blunts the sensory stimulus, thus significantly reducing the pain and delays increment in circulating testosterone and cytokines post resistance exercise[17]. The warm water exercise on the contrary appears to stimulate and accumulate more immune cells compared to cold water[18]. Some study shows that clean tap water is a cost-effective alternative modality of wound irrigation or cleansing agent as compared to normal saline[19]. The tap water is easily available in adequate amount, cost effective and there is no deterioration in the status of the wound healing on its use for wound irrigation. There is no difference in the rate of infection of episiotomy wounds or open wound wash by water with variable temperature or any antiseptic solution[20]. Shower by plain water is an effective mode of improving personal hygiene and population health[21].

Conclusion

The progress of wound healing and postoperative comfort in operated perineal surgical wound does not based on type of seitz bath and the antiseptic solution used for sitz bath. But it is found that the frequency of sitz bath and subsequent improvement in the local hygiene definitely give comfort to the patient and speeds up wound healing. The choice of sitz bath which patient prefer is basically based on psychological impression created in the mind of patient, previous experience, socioeconomic status and consultant advice.

Reference

1. Geytenbeek, J. Evidence for effective hydrotherapy. Physiotherapy 2002, 88, 514–529.
2. Almassmoum, S.M.; Balahmar, E.A.; Almutairi, S.T.; Albuainain, G.S.; Ahmad, R.; Naqvi, A.A. Current clinical status of hydrotherapy; an evidence based retrospective six-years (2012–2017) systematic review. Bali Med. J. 2018, 7, 578–586.
3. Mooventhan, A.; Nivethitha, L. Scientific evidence-based effects of hydrotherapy on various systems of the body. N. Am. J. Med. Sci. 2014, 6, 199–209.
4. Jimenez, C.; Regnard, J.; Robinet, C.; Mourot, L.; Gomez-Merino, D.; Chennaoui, M.; Jammes, Y.; Dumoulin, G.; Desruelle, A.V.; Melin, B. Whole body immersion and hydromineral homeostasis: Effect of water temperature. Eur. J. Appl. Physiol. 2010, 108, 49–58.
5. Wilcock, I.M.; Cronin, J.B.; Hing, W.A. Physiological response to water immersion: A method for sport recovery? Sports Med. 2006, 36, 747–765.
6. Kraft, K. Complementary/alternative medicine in the context of prevention of disease and maintenance of health. Prev. Med. 2009, 49, 88–92.
7. Gupta PJ. A review of ano-rectal disorders and their treatment. Bratisl Lek Listy 2006; 107(8): 323-331.
8. Cross KLR, Massey EJD, Fowler AL, Monson JRT. The ssure. ACPGBI Position□management of anal

Statement. Colorectal Disease 2008; 10(Suppl 3): 1-7.
9. McConnell, E. A. Giving your patient a sitz bath. Nursing.1993; 23:14–16.
10. Leeds, A. The art of the sitz bath. Midwifery Today.2003; 65: 25.
11. Kahraman, A., Karaca, K., Etöz, A. & Ozcan, M. Perianal burn as a complication of hemorrhoid treatment caused by hot water sitz bath. Burns.2004; 30: 868–870.
12. Tejirian, T. & Abbas, M. A. (2005). Sitz bath: Where is the evidence? Scientific basis of a common practice. Diseases of the Colon and Rectum.2005; 48(12): 2336–2340.
13. Lang DSP, Tho PC, Li GM, Ang ENK. The effectiveness of sitz bath in managing adult patients with anorectal disorders: A systematic review. JBI Library of systematic reviews 2010; 8(11): 447-469.
14. Lang DSP, 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.
15. An J, Lee I, Yi Y. The Thermal Effects of Water Immersion on Health Outcomes: An Integrative Review. Int J Environ Res Public Health. 2019;16(7):1680.
16. Machado AF, Ferreira PH, Micheletti JK, de Almeida AC, Lemes ÍR, Vanderlei FM et al. Can water temperature and immersion time influence the effect of cold-water immersion on Muscle Soreness? A Systematic Review and Meta-Analysis. Sports Med. 2016;46(4):503-14.
17. Earp JE, Hatfield DL, Sherman A, Lee EC, Kraemer WJ. Cold-water immersion blunts and delays increases in circulating testosterone and cytokines post-resistance exercise, Eur J Appl Physiol. 2019;119(8):1901-7.
18. Saghebjoo M, Einaloo A, Mogharnasi M, Ahmadabadi F,The response of meteorin-like hormone and interleukin-4 in overweight women during exercise in temperate, warm and cold water, Horm Mol Biol Clin Investig. 2018;36(3).
19. Griffiths RD, Fernandez RS, Ussia CA. Is tap water a safe alternative to normal saline for wound irrigation in the community setting? J Wound Care. 2001;10(10):407-11.
20. Fernandez R, Griffiths R. Water for wound cleansing. Cochrane database Syst Rev. 2008;23:(1):CD003861.
21. Cox SC, Hocking C, Payne D. Showers: from a violent treatment to an agent of cleansing. Hist Psychiatry. 2019;30(1):58-76.