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A COMPARATIVE STUDY ON THE EFFICACY OF SITZ BATH WITH BETADINE VS SITZ BATH WITH EPSOM SALT VS SITZ BATH WITH COMBINATION OF BETADINE AND EPSOM SALT IN MANAGEMENT OF ACUTE ANAL FISSURE

General Surgery

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ABSTRACT

Background:-In light of ongoing debates and limited scientific evidence on the components used in sitz baths for conservative management of anal fissures, this study was conducted to assess the effectiveness of Betadine, Epsom salt, and their combination as treatment options. **Aim:-** To compare the efficacy of sitz bath with betadine vs sitz bath with epsom salt vs sitz bath with combination of betadine and epsom salt in management of acute anal fissure. **Objectives:-** 1)To study the effectiveness of betadine,epsom salt,combination of both as components of sitz bath.2)To compare the efficacy of three components.3)To identify the most effective component for sitz bath. **Materials And Methods:-**A prospective comparative study was carried out from February 2023 to October 2023 at Narayana Medical College and Hospital in Nellore. The study involved 45 patients with acute anal fissures, categorised into three groups.
group a :- sitz bath with betadine ,group b :- sitz bath with epsom salt
group c :- sitz bath with betadine and epsom salt
The evaluation parameters were :- assessment of pain, Improvement in symptomatology, patient satisfaction scores and wound healing at the end of 2 weeks. **Results:-**Patients who incorporated a combination of betadine and Epsom salt in their sitz bath experienced significant reductions in pain, more pronounced symptom relief, higher satisfaction scores, and improved healing of fissures. **Conclusion:-**Utilising a warm sitz bath with betadine and Epsom salt combination has demonstrated a general enhancement in pain and symptomatic relief and early healing of fissure consequently resulting in increased patient satisfaction.

KEYWORDS

sitz bath, epsom salt ,betadine, acute anal fissure

INTRODUCTION

Anal fissure, characterised by a linear ulcer in the squamous epithelium of the anal canal just below the dentate line, typically in the posterior midline, causes intense pain along with spasm of the anal canal due to increased tone in the internal anal sphincter. The causes might be Passing large or hard stools.,Constipation and straining during defecation ,Long-lasting diarrhoea.

While sitz baths are commonly recommended for managing acute anal fissures conservatively , patients are often not adequately instructed on how to perform them and which component to be used in a sitz bath .Sitz baths are believed to alleviate pain and enhance healing by improving local blood circulation..Various components are used in a sitz bath for the effective prognosis.However, there is limited scientific evidence regarding the use of components in a sitz bath .The commonly used components are betadine and epsom salt in lukewarm water

AIM AND OBJECTIVES

The aim of the study is To compare the efficacy of warm sitz bath with betadine vs warm sitz bath with epsom salt vs warm sitz bath with combination of betadine and epsom salt in management of acute anal fissure.

MATERIALS AND METHODS

This comparative study is done on the patients visited OP with signs and symptoms of acute anal fissure between February 2023 to October 2023.

The study involved 45 patients with acute anal fissures, categorised into three groups.

By simple random sampling.

Inclusion Criteria

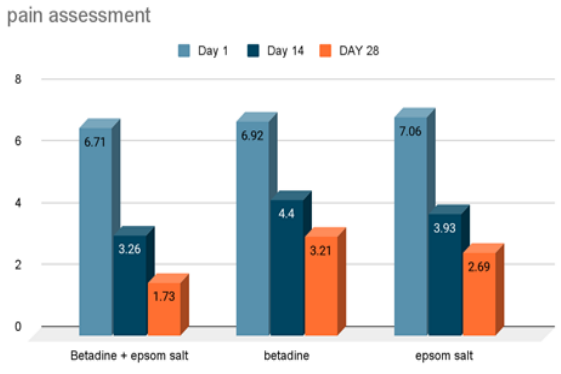
Patients presenting with features of acute anal fissure.Patients with age group between 20 and 60.

Exclusion Criteria

1. Age less than 20 years.
2. Patients who are diabetics
3. Immunocompromised patients
4. Malignancy conditions

Sitz Bath Procedure: Participants were instructed to immerse their hips and buttocks in a tub filled with water with a combination of Betadine 10 ml and Epsom salt 20g (7) for the first group, with Betadine 10 ml for the second group, and Epsom salt about 20 grams alone for the third group. The water temperature was maintained at approximately 30 degrees Celsius, and each session lasted for 15 minutes, to be repeated three times daily.

Pain Assessment Visual Analogue Scale (0-10) 0- No Pain 10- Severe (Table 1)

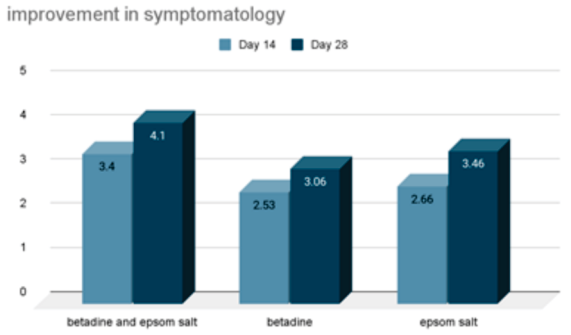


	B+E (Group A)	B (Group B)	E (Group C)	P value
Day 1	6.71±0.82	6.92±0.91	7.06±0.88	<0.05
Day 14	3.26±0.79	4.4±0.63	3.93±0.70	<0.05
Day 28	1.73±0.59	3.21±0.80	2.69±0.94	<0.05

All the three groups were advised analgesics , high fibre diet , plenty of oral fluids, nifedipine and lignocaine cream and laxative syrup.Betadine containing 10% povidone iodine , epsom salt , the magnesium sulphate.Regular follow up was done and results are statistically analysed for assessment of pain, Improvement in symptomatology, patient satisfaction scores and wound healing at the end of 2 weeks. The assessment was done using visual analogue scale. ANOVA was used for statistical analysis..Written informed consent was obtained from all patients before enrollment into the study.

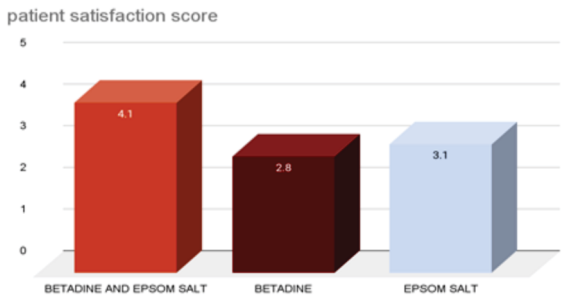
Improvement In Symptomatology By Visual Analogue Scale (0-5) (Table 2)

	B+E (Group A)	B(Group B)	E(Group C)
Day 14	3.4±0.73	2.53±0.63	2.66±0.72
Day 28	4.1±0.63	3.06±0.70	3.46±0.63



Patient Satisfaction Score Visual Analogue Scale 0-5 (Table 3)

	B+E (Group A)	B (Group B)	E(Group C)
Day 28	4.1±0.63	2.8±0.74	3.1±0.74



Wound healing after 2 weeks

- In group A , 12 out of 15 patients epithelialization was seen , and in 3 patients raw area is still visible
- In Group B , 11 out of 15 patients epithelialization was seen , and in 4 patients raw area is still visible
- In Group C , 13 out of 15 patients epithelialization was seen , and in 2 patients raw area is still visible

RESULTS

In our study,there were a total of 45 patients in which 15 patients were advised betadine + epsom salt as a component in warm sitz bath , 15 were advised only betadine as component in warm sitz bath and 15 patients were advised epsom salt as component in warm sitz bath.All patients included in the study were comparable for age and sex.

The mean pain score in patients advised betadine + epsom salt as a component in warm sitz bath and only betadine as component and only epsom salt as component on day 1 was 6.71 ,6.92 and 7.35 respectively, and that measured on the 28th day were 1.73 , 3.21 and 2.1 respectively, with pain relief most evident with betadine + epsom salt combination as a component in warm sitz bath followed by only epsom salt as component. The overall patient satisfaction score (mean) assessed on day 28 was 4.1in patients advised betadine + epsom salt as a component (group a) and 2.8 in patients advised only betadine as component (group b) and 3.1 in patients advised only epsom salt as component (group c) in warm sitz bath.

The improvement in symptomatology(burning ,itching,pain during defecation) on day 14 is 3.4, 2.53,2.66 , respectively in group a , group b , and group c and on day 28 is 4.1 , 3.06, 3.46.

DISCUSSION

In a Study (Gupta's 1) Found that warm water sitz baths didn't result in significant pain relief or wound healing for anal fissures. Despite this, there was a higher level of overall patient satisfaction observed. Jensen's Study (5)demonstrated that adopting uncomplicated measures like warm sitz baths along with dietary incorporation of unprocessed bran was more effective in alleviating symptoms compared to other treatments.. Lang's Systematic Review (4) involving 268 participants Reviewed multiple studies and found that sitz baths didn't yield statistically significant impacts on pain intensity or post-operative pain in anal fissure management.In a Prospective Study (2) Involving 60 patients with acute anal fissure, found notable symptom relief and increased patient satisfaction through warm sitz baths. There's a hypothesis suggesting that sitz baths may reduce pain by relaxing the internal anal sphincter, thus reducing rectal neck pressure. The warming effect of water is believed to stimulate sensory receptors, causing sphincter muscle relaxation, known as the 'thermo-sphincteric reflex.' Sitz baths are believed to enhance hygiene, alleviate discomfort, and support wound healing, potentially preventing infectious diseases. Studies suggest that Povidone iodine diluent sitz baths can effectively reduce the incidence of reinfection due to the unique location and susceptibility of the perianal area to infections.Overall, while some studies show mixed results regarding the efficacy of sitz baths in pain relief and wound healing for anal fissures, they remain widely recommended by clinicians for symptom management and patient satisfaction. Further research may be needed to clarify their clinical significance and mechanisms of action.Given our results and observations, we recommend further scientific evidence based studies to be conducted to clarify and prove the efficacy of components used in a sitz bath.

CONCLUSION

Utilising a warm sitz bath with betadine and Epsom salt combination has demonstrated a decrease in pain and enhanced symptomatic relief and early healing of fissure consequently resulting in increased patient satisfaction.

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