

Comparison of Almond Oil Plus Phenol and Sodium Tetradecyl Sulfate for Rectal Prolapse in Children

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ABSTRACT

Rectal prolapse in children should be treated as a medical emergency, therefore parents and carers should speak with a doctor about the best course of action. Additionally, it's critical to keep an eye out for any indicators of difficulties in the child, such as bleeding, infection, or faecal incontinence, and to seek medical help right.

Methods and Material: One hundred patients were enrolled in the trial and were split evenly between two groups. Patients in cases were administered Phenol in Almond Oil at a 5% concentration, whereas those in control were given Sodium Tetradecyl Sulfate. Both groups were monitored for recurrence and complications on the first post-operative day and during the first post-operative month.

Results: Children in cases had a mean age of 5.633.34 years, whereas those in control had a mean age of 7.162.80 years. There were 46 kids in cases and 39 kids in control. There was a statistically significant ($P < 0.05$) correlation between treatment groups and decrease on day one after surgery. After the first postoperative day, 5 children in cases and 1 kid in control experienced bleeding PR. A post-POD increase in bleeding PR was not significantly different across treatment groups ($P > 0.05$). At the one-month follow-up, 49 of the children in cases and 44 of those in control showed signs of improvement. The proportion of patients in cases who saw their symptoms improve was significantly higher than that of individuals in control ($P < 0.05$).

Conclusion: In the treatment of rectal prolepses, we have come to the conclusion that phenol almond oil with a concentration of 5% is more efficient than sodium tetradecyl sulphate. In other words, the post-operative decline was 98% rather than 88% following the first month of follow-up care.

Keywords: Rectal Prolapse in children, almond oil plus phenol, sodium tetradecyl, bleeding, recurrence

INTRODUCTION

When the rectal tissue pushes through the anus in youngsters, it causes a noticeable lump or bulge. Although older children can also get the illness, newborns and young children are most frequently affected.¹ Rectal prolapse in children can have a variety of causes, including nerve injury, diarrhoea, weak pelvic muscles, and chronic constipation. In some circumstances, the issue may also be linked to underlying illnesses like Hirschsprung's disease or cystic fibrosis.^{2,3}

Typically, treating the underlying causes of the condition, such as constipation or nerve injury, is how rectal prolapse in children is treated. Surgery can be required in some circumstances to correct the prolapse.^{4,5}

Rectal prolapse in children should be treated as a medical emergency, therefore parents and carers should speak with a doctor about the best course of action. Additionally, it's critical to keep an eye out for any indicators of difficulties in the child, such as bleeding, infection, or faecal incontinence, and to seek medical help right away if they do.⁶⁻⁸

Parasites, starvation, and bladder exstrophy cause prolapse. In developing nations, malnutrition and diarrhoea induce cystic fibrosis, the second most common cause of rectal prolapse. Its perseverance worries people despite its terrible intricacy. Ulceration, edoema, and gut necrosis from a prolapsed rectum can cause perforation. Rectal prolapse treatment, from minor surgery to abdominoperineal operations, is contentious.^{4,9-13}

A method few decades back was developed that utilized phenol found in olive oil to induce fixation of the mucosa and submucosa. The aforementioned outcome was attained through the utilization of a 25-30 gauge needle. Frequently observed complications^{14,15} include urinary retention, necrosis of the rectal mucosa, haemorrhaging, inflammation of the perirectal area, and the development of an ischiorectal abscess.

MATERIAL AND METHODS

After receiving approval from the Hospital ethics committee, this randomized trial was carried out in the hospital's Pediatric Surgery

Department. One hundred patients with rectal prolapse between the ages of 1 and 12 were enrolled in the study. Patients less than one year of age and those with secondary reasons of prolapse (such as cystic fibrosis, neurological disorders, bladder extrophy, or an imperforate anus) were not included. The patients were split up into two groups at random.

Patients in cases were administered Phenol in Almond Oil at a 5% concentration, whereas those in control were given Sodium Tetradecyl Sulfate. Both groups were monitored for recurrence and complications on the first post-operative day and during the first post-operative month. The data was analysed using IBM SPSS Version 23. The mean and standard deviation were used to represent quantitative data. To illustrate qualitative factors, we used frequency tables and percentages. To determine statistical significance of difference of variables, suitable tests were applied, taking the p as < 0.05 .

RESULTS

The study involved the participation of one hundred individuals. The study population exhibited a mean age of 5.633.34 years. The study population comprised patients within the age range of 2 to 12 years, with a mean age of 9 years. On average, the age range of the patients in the control group was between 3 to 10 years, with a mean of 7.16 and a standard deviation of 2.80. The mean age of the patients was 6.393.21 years.

The study observed that among the cases, 44% of the patients were male and 56% were female. In contrast, among the control group, 88% of the patients were male and 12% were female. The study encompassed a cohort of 50 patients, of whom 6 had a complete record of their presenting symptom, while 44 had incomplete records.

The study revealed that 12 patients in the control group possessed a complete record of their presenting ailment, whereas the remaining 38 patients did not have such records. The findings of the initial POD reduction analysis involving a sample of 46 cases and 39 controls are reported. The study identified a statistically significant correlation between the treatment groups and the outcome of decreased 1st postoperative day (POD).

The study findings indicate that patients who underwent weight loss experienced superior outcomes following the initial postoperative day (POD) in comparison to those in the control group. Stated differently, the statistical significance level was found to be $p=0.049$. Both the cases (46) and control (39) groups exhibited a decrease in symptoms on the initial postoperative day (POD). The statistical analysis revealed that there was a significant correlation between the treatment groups and the reduction in symptoms on the first postoperative day, as indicated by the p -value. The study found that patients who underwent weight loss after the first postoperative day (POD) had superior outcomes compared to the control group. To clarify, the statistical analysis revealed a p -value of 0.049, indicating that five children in the cases group and one child in the control group experienced bleeding per rectum following postoperative day. The p -value indicated the absence of a statistically significant correlation between the therapy groups and bleeding PR after POD. Therefore, the obtained p -value is 0.092.

Nevertheless, during the control phase, it was observed that the quantity of blood discharged per rectum was comparatively lesser than that of the instances. Perianal abscess was observed in one patient from the control group and two patients from the cases group. The statistical significance of the correlation between therapy and Perianal abscess was not established, as the p -value obtained was 0.092%. The incidence of Perianal abscess was lower in the control group as compared to the cases. At the one-month follow-up, a total of 49 patients in the cases group and 50 patients in the control group had achieved a reduction. The experimental group exhibited a greater reduction in weight compared to the control group. A significant statistical difference was observed in the reduction. The p -value of 0.050 indicates a statistically significant result with a low probability.

Table 1: Demographics (n = 100)

	Group A (n = 50)	Group B (n = 50)
Age (Mean±SD)	5.6 ±3.4	7.2±2.8
Male n(%)	22 (44%)	44 (88%)
Female n(%)	28 (56%)	6 (12%)

DISCUSSION

Rectal prolapse in children is something that, in most cases, corrects itself on its own. It should be mentioned that there is no one therapy method that is universally approved or considered the norm for treating rectal prolapse in young patients. The management of this condition typically involves the use of conservative treatment methods, such as avoiding squatting positions and excessive straining while defecating, implementing effective bowel training, and eliminating trigger factors such as diarrhoea, polyps, constipation, and other factors related to the condition.⁸⁻⁹

Surgery is only done on a case-by-case basis to treat rectal prolapse, and there is no general agreement over which of the numerous procedures that have previously been documented in the literature is the most successful. There is no set length of time that must pass before a problem will spontaneously resolve itself. Rectal prolapse is a nuisance and a source of anxiety for the patient's parents, and it is not always easy to alleviate these feelings. The majority of households will, at some point, look for assistance of some kind¹⁶.

The best treatment for rectal prolapse is still a matter of debate. Sclerotherapy and other surgical procedures are included. It is also debated what kind of sclerosants should be used and what kind of surgery should be done. Consequently, this pathology is one of the most debated because there are so many potential treatments. However, many of these treatments have been shown to be effective in the majority of patients. Oily phenol injections, hypertonic saline, 50% dextrose water, deflux, alcohol, and STDs are just some of the sclerosants that have been used to treat rectal prolapse in children^{19, 20}.

Researchers have used a variety of sclerosing agents, including cow milk, 5% dextrose water, saline water, and 5% phenol in almond oil.^{21, 22}The effects of phenol in almond oil (PAO) injection sclerotherapy on children as well as the prevalence of problems following PAO injection were explored by Sasaki Y. According to the findings of his investigation, after receiving anywhere from one to three injections, all nine patients made a full recovery. During the injection sclerotherapy, the manometric research revealed that the anorectal reflex as well as other anorectal features were normal. After receiving the medication, two of the four patients who had been suffering from constipation before to receiving it were no longer affected by the condition.¹⁸

A comparative analysis was carried out in Nawab Shah to evaluate the effectiveness of injectable sclerotherapy. According to their research, a total of 26 individuals underwent treatment with injectable sclerotherapy comprising of 5% phenol in almond oil. All 26 individuals were subject to a month-long follow-up period. There were no complications attributed to either the administration of anaesthesia or the procedure itself. Following a one-month period of monitoring, no instances of recurrence were observed.²⁵

Batool et al. conducted a two-stage study to investigate potential treatments for idiopathic rectal prolapse in children. Over 50% of the participants in the initial phase of the trial experienced resolution of their prolapse following a three-month period of conservative monitoring. Considering this, the authors propose deferring any form of intervention for a minimum duration of three months. The second phase of the study involved the implementation of injection sclerotherapy as an intervention. After a single injection, 5/8 of the patients were cured within two weeks, and complete recovery was observed in all patients after a period of three months. This comment displays a high level of perceptiveness.⁸

A subsequent study conducted in Quetta investigated the effectiveness of injectable sclerotherapy, specifically utilising a solution of 5 percent phenol in almond oil, in combination with Thiersch's suture for managing rectal prolapse in the paediatric population. Following a period of one month of observation, the study determined that three of the aforementioned occurrences had recurred. Following a subsequent administration of sclerotherapy injections, the individual's medical status exhibited signs of amelioration. In three instances, a perianal abscess was the only complication observed. The situation became tranquil subsequent to the implementation of drainage measures. The feasibility of conducting long-term follow-up remains uncertain.¹⁶

No empirical evidence was discovered that directly contrasted the two therapeutic approaches. Rectal prolapse can be managed through the utilisation of a blend of Sodium Tetradecyl Sulphate and phenol almond oil, which constitutes approximately %. On the contrary, scholarly research has demonstrated the advantageous effects of Sodium Tetradecyl Sulphate in the management of haemorrhoids. A study conducted in the local area aimed to compare the efficacy of injection sclerotherapy (IS) and electrocoagulation (EC) in the management of early haemorrhoids. The study evaluated various factors such as patient satisfaction, procedural pain, and rectal blood loss. According to the study findings, a significant proportion of patients (81%) were diagnosed with chronic constipation. The prevalence of haemorrhoids in patients with a positive family history was found to be 24.5%. The study findings indicate that patients who underwent Electrocoagulation (EC) experienced a higher degree of pain during the procedure compared to those who underwent Injection Sclerotherapy (IS) ($P=0.000$). However, EC was found to be significantly more effective than IS in reducing rectal bleeding ($P=0.039$). Additionally, a greater proportion of EC patients reported complete satisfaction with the treatment ($P = 0.04$).²⁶

Almond oil phenol is proven beneficial. Its affordability and accessibility make it popular. This medicine has many negative effects, however they're rare. Protein precipitation causes fibrosis. Antiseptic and corrosive. Greasy preparation reduces systemic absorption. Almond oil and others transport pharmaceutically

active chemicals. Injecting it in children requires extra care. We found no standard dosage, although ingesting more than 10 mL at once is not advised. Injections in the perirectal region may injure nearby tissues. Incorrect injections can induce prostatic and ischioanal fossa abscesses. Systemic absorption can cause cardiac arrhythmias, tissue sloughing, and necrotizing fasciitis. Allergies and hyperthermia have occurred. Plastic syringes shouldn't hold this. Glass syringes are best.²⁵

CONCLUSION

In the course of our research into the treatment of rectal prolapses, we came to the conclusion that a 5% concentration of phenol almond oil is more effective than sodium tetradecyl sulphate. This was the conclusion that was reached. To elaborate, the rate of post-operative decline went from 88 percent to 98 percent after the first month of follow-up care was received.

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