

Evaluation of Clinical Outcomes in Non-Surgical Management of Fistula: A Comparative Study

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Abstract

Background: An anal fistula connects the anorectal area with the skin; a fistula is an abnormal route joining two epithelialized surfaces. Such a fistula often has an external orifice in the perianal skin and an internal orifice mostly in the anal canal, which frequently results in a chronic suppurative disease. Theoretically, surgical intervention for an anal fistula will eliminate sepsis, encourage tract repair, protect the sphincter system, and eliminate sepsis. Complex perianal fistulas have been treated using a number of methods, which is indicative of the fact that no one strategy has yet been fully successful. Conventional anal fistula surgery frequently results in continence issues, which is why innovative methods intended to achieve significant integrity of the apparatus of surgical intercession.

Aim: This study was carried out to analyze the clinical outcomes of non surgical therapy of fistula using CIDCI technique.

Methods and Materials: The examination of 84 individuals who received perianal fistula treatment at our institution served as the basis for this comparative study. The included individuals had been identified as having single-tract transsphincteric fistulas and suprasphincteric anal fistulas. Patients who had intersphincteric fistulas and sphincter impairment were also included All participants with history of Crohn's disease, history of acute inflammatory changes, history of complex anal fistulas with many tracts and cavities, and other conditions were disqualified. The study participants were divided into two categories. Category A: Patients undergoing surgical management (n=42). Category B: Patients undergoing non-surgical management using CIDCI technique. (n=42).

Results: In this study, infection was observed in 2 patients in group A patients while no mobility was observed in 40 patients in group B patients. Infection was observed in 1 patients in group B patients while no mobility was observed in 41 patients in group B patients.(p<0.05). It was observed that there was reduced infection and mobility in both technique of management of fistula. However the difference was not observed when comparison was made between two the groups. (p>0.05).Healing of fistula was observed in 36 patients in group A patients while healing of fistulas was observed in 37 patients in group B. There was significant healing in both groups. However the difference was not observed when comparison was made between two the groups. (p>0.05).

Conclusion: It can be inferred from these findings that there was no difference between surgical and CIDCI clinical outcomes like suppuration or infection in one or two patients and cellular or epithelial healing progress which is not different and which is similar in both procedures.

Keywords : Fistulas, non-surgical approach, CIDCI approach, clinical outcomes.

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Introduction

An anal fistula connects the anorectal area with the skin; a fistula is an abnormal route joining two epithelialized surfaces. Such a fistula often has an external orifice in the perianal skin and an internal orifice mostly in the anal canal, which frequently results in a chronic suppurative disease.

Theoretically, surgical intervention for an anal fistula will eliminate sepsis, encourage tract repair, protect the sphincter system, and eliminate sepsis. Complex perianal fistulas have been treated using a number of methods, which is indicative of the fact that no one strategy has yet been fully successful. Conventional anal fistula surgery frequently results in continence issues, which is why innovative methods intended to achieve significant integrity of the apparatus of surgical intercession [1,2].

An obvious benefit of certain new approaches is the fact that they not actually impact continence, so if this therapy outcome is ineffective, other methodologies can be implemented without hindrance to the outcome, despite the fact that inadequate evidence has been procured from good quality randomized controlled prospective research [3,4].

Among the most prevalent anorectal illnesses is fistulous illness. It has an annual frequency of 8.6 to 10 person every 100,000 people. There is no concrete evidence to support the hypothesis that an microbial infection in the intersphincteric region is what causes the majority of fistulas, which are of cryptoglandular etiology [5,6].

Even though case histories vary, different definitions of intricate fistula have been

suggested, numerous strategies (each with different versions) have already been used, various measures have been employed to assess the outcomes achieved, and follow-up durations are frequently brief, there is a great deal of controversy surrounding the surgical intervention of anorectal fistula. As a result, no firm judgements have yet been made [7,8].

Traditional surgical procedures like fistulectomy are widely used in clinical practise because they appear to be generally safe for basic and more distal fistulas. There is still a lot of concern about potential harm to the apparatus of sphincter and a unsatisfactory functional prognosis for more intricate fistulas that involve a sizable piece of the anal sphincter. After receiving traditional surgical treatment, this is indeed thought to be almost unavoidable [9,10].

Any surgery of the anal canal will impact the highest and lowest contraction levels and is related with poor continence in 50 percent of participants, according to functional tests of sick people prior to and after fistulotomy. Success values ranged from 79 to 100%, but reported percentages of postoperative incontinence vary from zero to 82 percent.

These factors have led to the recent consideration of novel non surgical techniques in an effort to improve sphincter integrity and postoperatively continence results. The outcomes, though, have been inconsistent [11,12]. There is another non-surgical approach for management of fistulas named, Chemical Cauterisation, Irrigation with Normal Saline, Diversion, Chemical Cauterisation, Irrigation with

Normal Saline (CIDCI) technique. This study was carried out to analyze the clinical outcomes of non-surgical therapy of fistula using CIDCI technique.

Aim

This study was carried out to analyze the clinical outcomes of non-surgical therapy of fistula using CIDCI technique.

Objectives

1. To find out the healing progress of epithelial tissue.
2. To find out the end results of conventional surgical approach with the non-surgical CIDCI technique.

Inclusive Criteria:

1. The included individuals have been identified as having single-tract transsphincteric fistulas and suprasphincteric anal fistulas.
2. Patients who had intersphincteric fistulas and sphincter impairment were also included.

Exclusive Criteria:

All participants with history of Crohn's disease, history of acute inflammatory changes, history of complex anal fistulas with many tracts and cavities, and other conditions were disqualified.

Methods and Materials

The examination of 84 individuals who received perianal fistula treatment at our institution were included in this comparative study.

The study participants were divided into two categories

Category A : Patients undergoing surgical management (n=42)

Category B : Patients undergoing non-surgical management using CIDCI technique. (n=42)

Patients who had operations under spinal anaesthesia made up Group A. The surgical procedure used entails the

following actions for patients included in category A.

1. Use a probe with grooves to channel the tract.
2. Cut out the interior and external orifices' fibrous regions.
3. To generate a rough surface, curette the tract (conventional technique).
4. Use hydrogen peroxide to wash, as active bleeding prevents growth hormones from working.
5. Use an applicator unit that has a monitor showing how much substance is left to seal the tract.
6. Retain the interior orifice closed.

Steps for non-surgical management using CIDCI in patients of category B

1. Cauterization of Epithelial lining by irrigation / Anal Canal to be coated with Vaseline.
2. Regular washing with NS to clean unhealthy granulation.
3. Repeat cauterization offer 7 days with mild chemical 4 times after gap of 5 days.
4. Regular irrigation with NS twice a day or after defecation.
5. Making main holes over the track at gap of 1.5cm with or in Inter Sphincter Space.
6. Ensure that Inter Sphincter Space is open till complete healing of internal opening.

Detailed Procedure:

1. 20ml syringe full of 20 G needle (metal part to be removed) @12 PSI 5% cuso₄ solution to be pushed by attaching syringe at external opening (Anal Canal to be coated with Vaseline mixed with turmeric).
2. After a gap of 3 minutes irrigation with normal saline 40 ml 2 syringes of 20 ml NS each.
3. Over the probe we need to make multiple opening with in or on intersphincteric space.

4. Regular irrigation with Normal saline 40 ml twice a day or after going to toilet for 7 days.
5. Irrigation with 3% H₂O₂ (20ml), Push it with 20 ml syringe and wait for 5 minutes (Anal Canal to be coated with Vaseline mixed with turmeric).
6. Irrigation with Normal Saline 40ml immediately after 5 minutes.
7. After 5 days again washing with H₂O₂ 3% (20ml) and irrigation with NS for 5 minutes. This procedure to be repeated 4 times with regular irrigation with Normal Saline (Anal Canal to be coated with Vaseline mixed with Turmeric every time when you irrigate with H₂O₂).
8. After 27 days we need to check 1.0 (Internal opening) status. If it is closed we are near to complete healing, if not we need to be more careful.
9. We need to irrigate all openings & then dry it up with sterilized Johnson ear buds.

10. Between 6 to 8 weeks we expect complete healing.
11. If we have associated cavity once we are sure that cavity is clean we can fill collagen for faster healing.
12. We can inject PRF (Plasma Rich Factor) whenever required in clean wound for faster healing.
13. If required we can use beaded thread for curettage.
14. For making opening we can under run a thread below probe anal by rubbing we can make openings and widen them by manipulation for fast healing.

Investigations for assessment

Pre-operative MRI and Post-operative MRI in patients of category A undergoing surgical management.

Pre-procedure MRI and Post procedure MRI in patients of category B undergoing non-surgical management through CIDCI.

Observations

Table 1: Clinical outcomes in both groups

| | Morbidity | | P value | Healing of fistula | | P value | Difference Wexner pre postoperative | | | P value |
|----------------|-----------|-------------|---------|--------------------|-----|---------|-------------------------------------|---------|---------|---------|
| | Infection | No mobility | | No | Yes | | 0 point | 1 point | 3 point | |
| Group A | 2 | 40 | 0.002* | 06 | 36 | 0.003* | 40 | 1 | 1 | 0.002* |
| Group B | 1 | 41 | | 07 | 37 | | 39 | 2 | 1 | |
| P value | 0.54 | | | 0.65 | | | 0.43 | | | |

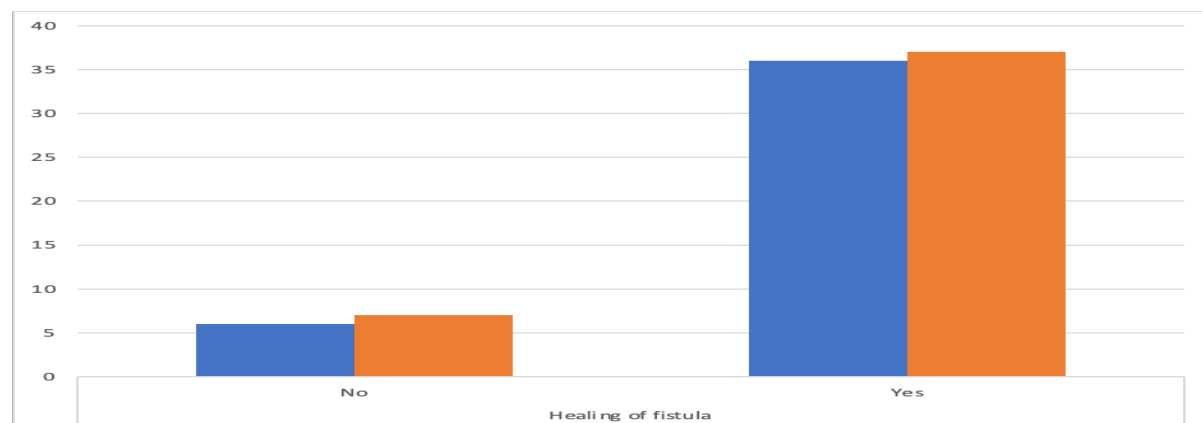


Figure 1: Healing of Fistula

Statistical Analysis

1. Quantitative variables in statistical analysis are represented as mean and standard deviation, while qualitative approaches are represented as absolute and comparative frequencies.
2. To ascertain the relationship between qualitative data, the Chi-Square test was used. If more than 20 percent of the anticipated outcomes were less than 5, Fisher's test was also used.
3. The Shapiro-Wilk test was used to confirm that the dispersion was normal.
4. The Kruskal-Wallis test was used to compare non - parametric and parametric quantifiable parameters, respectively.

Result

In this study infection was observed in 2 patients in group A patients while no mobility was observed in 40 patients in group B patients. Infection was observed in 1 patients in group B patients while no mobility was observed in 41 patients in group B patients. ($p < 0.05$). It was observed that there was reduced infection and mobility in both technique of management of fistula. However the difference was not observed when comparison was made between two the groups. ($p > 0.05$). Healing of fistula was observed in 36 patients in group A patients while healing of fistulas was observed in 37 patients in group B as observed in Figure 1. There was significant healing in both groups. However the difference was not observed when comparison was made between two the groups. ($p > 0.05$). When there was analysis between the preoperative and post operative condition in both categories then there was significant changes in both category However the difference was not observed when comparison was made between two the groups. ($p > 0.05$). It can be inferred from these findings that there was significant improvement in clinical outcomes in non surgical approach of management of fistulas and it was comparable to that of surgical approach.

Discussion

There is a great deal of debate surrounding the surgical intervention for anorectal fistulas despite the fact that case histories vary, various definitions of intricate fistula have been proposed, numerous strategies (each with different versions) have already been used, various measures have been employed to assess the outcomes achieved, and follow-up periods are frequently short. As a result, no definitive conclusions have been reached yet. Fistulectomy is a common surgical operation utilised in clinical practise since it seems to be generally safe for basic and more distant fistulas. There is still a great deal of worry about potential damage to the sphincter apparatus and an inadequate functional prognosis for more complex fistulas involving a significant portion of the anal sphincter [13,14].

This is considered to be practically inevitable following conventional surgical treatment. Functional examinations of sick persons before and after fistulotomy show that any section of the anal canal will affect the maximum and lowest contraction levels and is connected to poor continence in 50% of participants. The reported percentages of postoperative incontinence range from zero to 82 percent, but success rates ranged from 79 to 100%. These variables have recently prompted researchers to think about cutting-edge nonsurgical methods in an effort to enhance sphincter integrity and postoperative continence outcomes [15-17]. However, the results haven't always been consistent. There is another non-surgical approach for management of fistulas named, Chemical Cauterisation, Irrigation with Normal Saline, Diversion, Chemical Cauterisation, Irrigation with Normal Saline (CIDCI) technique. This study was carried out to analyze the clinical outcomes of non surgical therapy of fistula using CIDCI technique [18-20].

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group B patients. Infection was observed in 1 patients in group B patients while no mobility was observed in 41 patients in group B patients ($p < 0.05$). It was observed that there was reduced infection and mobility in both technique of management of fistula. However the difference was not observed when comparison was made between two the groups ($p > 0.05$). Healing of fistula was observed in 36 patients in group A patients while healing of fistulas was observed in 37 patients in group B. There was significant healing in both groups. However the difference was not observed when comparison was made between two the groups ($p > 0.05$). then there was analysis between the preoperative and post operative condition in both categories then there was significant changes in both category However the difference was not observed when comparison was made between two the groups. ($p > 0.05$). It can be inferred from these findings that there was significant improvement in clinical outcomes in non-surgical approach of management of fistulas and it was comparable to that of surgical approach.

We stress that the procedure utilised for patients in group B offers up to three chances to close the fistula without using surgical methods, which lowers expenses for the healthcare and prevents physical suffering for the patient. We believe that 54 percent of individuals with perianal fistula can avoid being referred to the standby list for surgery in light of the remarkably positive results attained with these individuals. The accompanying consequences can be drawn in terms of money with reduction in total cost. Additionally, patients who receive treatment in an outpatient setting do not require anaesthesia (general or spinal), which carries associated risks, or a surgical procedure [21-23].

Patient safety may thus be greatly enhanced. The fact that the results of earlier model systems concerning the debridement

of the tract are confirmed is another significant finding of the current investigation. The overall performance of the surgical operation increased when we employed our specially constructed curettes in collaboration with the conventional approach [24,25].

Conclusion

It can be inferred from these findings that there was no difference between surgical and CIDCI clinical outcomes like suppuration or infection in one or two patients and cellular or epithelial healing progress which is not different and which is similar in both procedures.

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