

# Video-Assisted anal fistula management updates

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## Abstract

Anal fistula is a pathological condition between the anal canal and perianal skin affecting quality of life in different population. The ideal treatment is based on 3 main tenets: (1) Control of sepsis; (2) closure of the fistula; and (3) maintenance of continence. Treatment options have continued to evolve - as a result, it is important to review old and new options on a regular basis to ensure that our patients are provided with up-to-date information and options for an informed consent. Interventions to promote quality of life by effectively managing fistulas is a process that has been taken through different approaches ranging from surgical option as fistulotomy or ablation of the luminal wall of the fistula by Cauterization of the internal surface of the tract in either video-assisted fistula treatment or fistula tract laser closure. On this report we will focus mainly on VAAFT to describe the procedural steps and preliminary results of VAAFT. Three authors are analyzed in this literature review to determine the underlying updates that have been used to describe the perceptions on effectiveness of VAAFT realized while seeking to address issues related to fistulas. The findings obtained are based on the authors perspectives and can only be quantified based on patient experience and preferences in managing and treatment of their conditions.

## Introduction

perianal fistula can be described as an abnormal anatomical connection between the anorectal canal and the perianal skin. Symptoms of anal fistulas include perianal cellulitis, anorectal pain, pruritus ani, continuous purulent discharge, and in some cases, difficulty controlling bowel movements. Most anal fistulas are idiopathic (approximately 90% of cases) and arise from an infected anal crypt. Men are more commonly affected than women, and the mean age of first presentation is reported to be 40 years. Additional evaluation indicates that anal fistula is a major medical condition affecting patients suffering from crohn's disease [1]. Thus, the most applied treatment is through medical therapy since the fistulotomy is considered as a polit project and has procedural complications which can affect the intended outcome of treatment plans. Analysis in the treatment interventions applied to manage recurrent, complex, and branched fistula poses a higher treatment failure as well as oncoming complications. Addressing these complications and treatment failure can be attained through ensuring that the entire process is based on an initial diagnostic assessment. The two most common diagnostic tests performed are endoanal ultrasound (EUS) with hydrogen peroxide administered to the lumen of the fistula and magnetic resonance imaging (MRI) of the pelvis. Unfortunately, even these methods lack the sensitivity required to fully assess the exact course and form the fistula tract. Moreover, intraoperative exploration of the fistula tract with a simple, rigid proctological probe can lead to creation of a false tract in perianal tissues and transform a simple fistula into a complex one [1].

The first fistuloscope took place under supervision of Dr. Piccarlo Mienero. Under the new intervention applied by Dr. Mienero, improved endoscopic treatments are facilitated by administration of visual aided tracking which is guided by video input. Execution of this improved monitoring of fistula is achieved by taking a two-phase practice of diagnostic and operative phases entailing insertion of fistuloscope using external openings and an additional fluid to allow visual analysis of the internal organs [1]. However, it is important to understand

that cautery electrode is responsible for destruction of fistula and its underlying branches followed by removal of necrotic remnants as well as cleaning by perfusion fluid. Therefore, there is a need to understand how different pieces have been written by several authors to describe functions of video assisted anal fistula control.

## The Pros and Cons of video-assisted anal fistula treatment

Evaluation of the pros and cons of video-assisted anal fistula (VAAF) management was a study conducted by Michal Romanszyn in 2016 and published in 2017 [1]. The objective of this study was providing how findings of one center objective study for the outcome of VAAF treatment methods. In order to attain the study outcomes as the initial plan indicated, there was need to conduct a non-randomized observational analysis. Therefore, the inclusion criteria for patients were patients with perianal fistula who were ready to be taken through elective surgery and have been in this condition for some time. However, the study included patients who indicated a low impact of inter sphincteric fistula. In such considerations, a total of 68 participants were selected for this study with 48 males and 20 female participants. The average age of participants was 43.8 years collected from a range of 24 up to 81 years presented by participants in this study. From the study conducted, it was concluded that 30 patients had trans sphincteric fistula as other 38 of the total participants indicated complex fistula. Averagely, the entire study was based on operating duration of 65 minutes given a missing correlation while a drop was recorded in reporting and learning time of the curves [2]. The findings

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further provided that out of the 68 participants who took part in this evaluation, 51 of them recovered with representation of 75% of the total number and this was an indicator that the process required 52 days to attain full healing of the wound. The other 17 participants of this study were unable to heal from the first process and thus required a secondary procedure of repeat VAAF or seton processes to attain a complete healing state. Based on the data obtained from the group which initially healed, recurrence cases reported in 14 patients, and this was a presentation of 20.6% of the total number of participants who took part in the study [2]. The average recurrence was reported from one to six months of healing while an extreme case of two recurrences taking place after 23 as well as 38 months from the initial healing.

The study findings indicated a limited variation in simple trans sphincteric and complex forms of fistulas. According to previous publications previewed, complex fistulas are described as the existence of fecal content where the bowels can be inflamed making such types of fistulas difficult to heal. Aside from the type of fistula affecting the participants, the study indicated participants' gender had an influence in illustrating how the condition takes root in the study population. Women were realized to have a better recovery rate when compared to men. The study indicated that there has been no work conducted to analyze the healing frequencies of perianal fistula and therefore it was difficult to provide how this form is expressed and healed in the two genders.

The results of the study identified the underlying advantages and disadvantages of VAAF. One the advantage of VAAF established from the study included no reported complications from the process of treating forms of fistulas using visual aids. Patients with adverse conditions of perianal fistulas can be considered under the VAAF procedures even if they are repeated. Secondly, the fistuloscope offers the surgeon good control of all surgical activities thus making the treatment process safer. The VAAF is also a breakthrough in identification of side branches which were omitted in most cases. However, the research established some underlying disadvantages of VAAF when compared to the pilot study success level. The disadvantages are due to internal curves that are quite difficult to penetrate and provide a full view of the internal sections of fistulas in humans.

### Techniques in coloproctology

This research was conducted by Meinero P and Mori L in 2011 [2] to analyze how minimized inversion could be used in treatment of fistula. The method used was fistuloscope fitted with two taps fitted with 5,000 ml glycine mannitol solution. The patient was then placed at 90 degrees position to receive treatment in diagnostic and the operative phases. The diagnosis phase is done in order to correctly identify abscess cavities, locate fistula openings and also identify secondary tracks if it recurs [2]. Fistuloscope is inserted at the external opening while glycine-mannitol is already running. Operative phase involves destruction of fistula and cleaning of the tract and closing the internal opening. In this operation, the Obturator is removed and replaced with an electrode, this destroys fistula with continuous direct vision moving slowly from the external opening to the internal opening burning it to stop further infection and even remove whitish matter adherent to the fistula wall.

After the surgical operations, it was observed that 75.5% of patients had high trans sphincteric fistula. 9.2% of the patients had extra sphincteric fistula. 6.2% of the patients had super sphincteric fistula. In 9 cases, 9.2% of the patients had horseshoe fistula. Of the 91 cases received, 92.8% had a single fistula pathway while 7.2% of them were

double. Out of 16 cases, 16.3% of the cases had fistula opening on the anal canal while in 73 cases, 74.5% of the cases the fistula was located at the dentate line [2]. In 9 cases, there was 9.2% of the patients who had fistula located in the rectum. Considering time, in 81 cases 82.6% of the patients, the opening of internal fistula was found in five minutes. In 17 cases, 17.3% had to view using fistuloscope light. With various cases, operation time reduced from two hours to thirty minutes. After the operations, there was no significant complications nor infections.

The conclusion from the study is that video assisted anal fistula treatment is based on minimal and safe intrusion. There are a number of advantages for using this procedure including no surgical wounds left in the anal region, the surgery is undertaken in a day's work, there is a sure location of the fistula opening making it easy to operate. With minimal complications recorded and vast success rate, it is okay to say this is a better operating procedure as compared to other methods of managing internal fistula opening. It is also efficient at work as the patients do not undergo any postoperative stress of controlling efficacy and cost effective as the kit is reusable. Patients who get treated by this kit have fast recovery time and get back to work earlier than what the other methods of healing fistula.

### Comparing VAAFT and fistulectomy with sphincter repair

This study was conducted by Karam and Soren with an aim to compare the VAAFT and FSR interventions in managing adverse conditions of anal fistula. Development of this study objective was based on the fact that VAAFT could be experiencing a higher recurrence rate following the comparison with FSR during treatment of anal fistula. According to recommendations provided [1], FSR was considered the safest method as a success rate of up to 90% of the sample size analyzed in the past indicated a positive outcome. On the other hand, speculations were raising the VAAFT was linked to specific complications which were likely to worsen the condition of patients despite the intended treatment projected.

The study applied a randomized trial to analyze the results of treatments for complex anal fistula using VAAFT and FSR interventions. This study according to the author was based on the CONSORT principles and used all surgical procedures for selected participant patients admitted in Odense University Hospital [1]. From the two interventions of VAAFT and FSR, recurrence frequencies test was conducted following the initial treatment form the first administration of the interventions. The inclusion procedures for this study were adult patients with high fistula of more than a third infection rates. However, patients in this group with Crohn condition, symptoms of suppuration and malignancy in the past five years were excluded from the study.

The findings obtained from the study indicated that none of the participants showed signs of stoma of the 45 patients involved in the study. On the other hand, three follow up of MRI scans illustrated accurate follow up of fistula tract and there were no key variations from the two methods applied [1]. The study findings indicated that VAAFT and FSR patient's treatment interventions lacked complications and there was no patient who was subjected to a divergent stoma. However, the two methods indicated that of the total 45 participants, 21 of them indicated anal fistula recurrence where VAAFT had fifteen patients as FSR presented six patients. In general, the findings of this study indicated no significance variations in VAAFT and FSR procedures of anal fistula treatment in considerations of hazards, MR scanning and recurrence levels.

From the study, it was established that the recurrence rates in FSR was lower compared to that in VAAFT. This is because, the first randomized test indicated VAAFT had recurrence rates of 65% while on the other hand, the FSR indicated recurrence of 27%. The recurrence rates were at 1 and 35 percent of the randomized test and this was indicated by inclusion of patients with high fistula levels [1]. The study however failed to consider the impairment of faecal continence in the two treatment interventions. Thus, the conclusions can be seen that VAAFT was in the past related to quality life, but this has changed, and the study indicates that quality life is associated with FSR. This realization may be due to high recurrence and longer durations taken by wounds to heal [3].

## Conclusions

In conclusion, the three articles present different findings obtained from the study on fistula treatment using VAAFT. However, the findings are adverse and can only be qualified on the basis of patient preferences and experience in managing the condition. Additionally, effective use of VAAFT will require improvements as indicated in the three studies' findings. Therefore, the management of fistulas remains an area of interest as presented by different studies with their limitations in the quest to promote quality life and faster healing process.

## Declaration

The Authors declares no potential conflicts of interest with respect to the research, authorship, and / or publication of this article.

**Ethical Approval and Consent to participate:** Consent to participate was gained by the patient.

**Availability of data and materials:** All data and materials are available if further steps required.

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