



## Recurrence rate in complex anal fistula treated by video-assisted anal fistula technique: a prospective study.

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### Abstract

Video-Assisted Anal fistula Treatment is a recently developed minimally invasive sphincter-saving technique for treating complex anal fistula. Video-assisted anal fistula treatment (VAAFT) is a day care, diagnostic as well as therapeutic technique for treating complex and high anal fistula. The aim of this study was to find out the recurrence rate in patients having complex anal fistula treated by Video-assisted anal fistula treatment (VAAFT).

**Keywords:** Video-assisted anal fistula treatment (VAAFT), sphincter saving, complex and high anal fistula, day care.

### 1. Introduction

Anal Fistula is an abnormal epithelized communication between the rectum or anal canal and the perianal region. Among the perianal diseases, anal fistula is a very common condition causing soiling of the clothes, itching and lot of discomfort to the patients. There are different types of fistula with respect to their course like subcutaneous, intersphincteric, trans-sphincteric, suprasphincteric and extrasphincteric fistula [1]. As defined by Goodsall's rule, fistula anterior to the transverse line drawn across anal verge in lithotomy position, tend to have a simple and straight course whereas those posterior to the said line tend to have a complex curved pathway.

Complex fistula is often a source of concern for both surgeons and patients because of its high risk of post-operative recurrence and fecal incontinence. Anal fistula is termed as "complex"[2,3,] when : the track crosses more than 30% to 50% of the external sphincter (like high trans-sphincteric, suprasphincteric and extrasphincteric fistulas), anterior fistula in females, has multiple tracks, the patients has pre-existing incontinence, post irradiated patients

and patients having Crohn's disease and tuberculosis of the fistula tract.

Conventional fistulectomy/fistulotomy is still considered as "gold standard" procedure for fistula-in-ano but it causes a lot of post-operative pain, takes more time to heal, causes sphincter incontinence and has high recurrence rate ranging from 10% to 45% [4,5] with success rate varying from 70 to 90% [6]. In recent years, various sphincter-saving techniques have become popular in treating complex and high anal fistula like fistula plug, fibrin glue, transanal advancement flap repair (TAFP), ligation of the intersphincteric fistula tract (LIFT), fistula laser closure (FiLAC) and video-assisted anal fistula treatment (VAAFT). The healing rates of the above mentioned techniques vary from 14% to 81% [7-10].

Video-Assisted Anal fistula Treatment, developed by Dr Piercarlo Meinero (Ciavarese, Italy) in 2006, is a minimally invasive, sphincter-saving technique for treating complex anal fistula. It is both diagnostic as well as therapeutic [11], day care technique for treating complex and high anal fistula. The main advantage of this technique are : the direct visualization of the fistula tract and internal opening,

identification of the secondary tracts or abscess cavities, complete destruction of tracts and preservation of anal sphincter function [12].

## 2. Materials and methods

Karl Storz Video equipment including Meinero Fistuloscope, a complete video endoscopic system with xenon light and HD camera was used along with an irrigation pump. Video-assisted anal fistula technique has two phases, a diagnostic and an operative phase. Diagnostic phase involves visualization of the fistula tract and correct localization of the internal fistula opening under direct vision. Whereas operative phase involves fulguration of the fistula tract with the help of a ball electrode by using 1% glycerine solution mixed with 1% mannitol or normal saline to visualize the tract, curetting the tract with curette and fistula brush and closure of internal opening either with flap closure using stout needle or with or without 0.5-1ml of 2% Cyanoacrylate glue.

This prospective study was conducted in Swagat superspeciality institute and Research Hospital, Guwahati, Assam, India from December 2018 to October 2019. The total number of patients studied were 84. These patients underwent History and General physical examination, Digital rectal examination (DRE), Ultrasonography (USG) whole abdomen and Magnetic Resonance Imaging (MRI) pelvis to find the fistula tract, internal opening and causes of anal fistula other than perianal abscess. Inclusion criteria includes :- patients with complex or high fistula, recurrent complex or high fistula and patients with all age group. Patients with simple or low lying fistula and with inflammatory bowel disease, abdominal Koch's were excluded.

## 3. Results

Total numbers of patients studied were 84. Out of which 14 (16.16%) were females and 70 (83.34%) were males, with males to females ratio 6:1. 18 (21.42%) patients had undergone previous surgery and presented with recurrent fistula. These patients were followed over a period of six month. According to Park's classification [13], 47 (55.95%) patients had trans-sphincteric fistula, 22 (26.20%) had intersphincteric fistula, 10 (11.90%) had suprasphincteric fistula and 5 (5.95%) had horseshoe fistula. Internal fistula opening was found in 56 (66.66%) by observing the fistuloscope light behind the rectal mucosa or by injecting the hydrogen peroxide through the fistula tract and observing it in

the rectum. In 24 (42.86%) cases internal fistula opening was located at the level of dentate line, in 18 (32.14%) cases in the anal canal and in 14 (25%) cases in the rectum. Single fistula tract was seen in 65 (77.39%) of cases and multiple tracts were seen in 19 (22.61%) of cases.

During the 6 month post-operative follow-up period, the total number of patients who had recurrence were 23 (27.38%). 61 (72.62%) patients were completely cured. 20 (28.57%) males and 3 (21.43%) females cases had recurrent fistula.

## 4. Discussion

Treatment of complex anal fistula, continues to be one of the challenging clinical problems in Anorectal surgery. The principles of current surgical techniques for treating complex anal fistulas are identification of the tract, identification of the internal opening, excision of fistula tract and preservation of anal sphincter function [14]. All the goals are achievable with VAAFT technique. Traditional surgical technique, fistulectomy and fistulotomy, are still the "Gold standard" for the treatment of simple fistulas with success rate of 70% to 90% [6]. However these traditional techniques are associated with high recurrence rates of 19.5% to 47% [15,16] and high fecal incontinence rates of 20.5% to 67% [17].

Current technique like Endo-rectal advancement flap along with application of Fibrin glue has success rate of 54% [18], Ligation Of Internal Fistula Tract (LIFT) has success rate of 39.8% [19] to about 82% [20], Fistula plug has healing rates of 38% to 72.7% [8,21,22] and fistula laser closure (fiLAC) has 82.3% healing rate [23].

In Meinero study, primary healing was achieved in 73.5% of cases and recurrence was seen in 26.5% [12] of cases where as the study conducted by Hui-Hong Jiang et al healing without recurrence was achieved in 84.5% [24] of cases and recurrence was seen in 15.5% of cases. In our study, 72.62% patients were completely cured and 27.38% patients had recurrent anal fistula. 28.57% of males and 21.43% of female patients had recurrent anal fistula. The recurrence rate was higher in males as compared to females patients. Thus, our data appears promising, confirming the results of Meinero P, Mori who reported very low recurrence rates after using a similar operative procedure.

## 6. Conclusions

VAAFT is a new minimally invasive technique

tract and internal opening under direct vision, avoidance of creation of false tract or internal opening, complete destruction of fistula tract, no fecal incontinence, low risk of complications, no surgical wounds at the buttocks, early mobility and cost effectiveness. However, the success rate of VAAFT

depends upon numbers of factors like surgeon experience with this technique, types of complex fistula and identification and closure of internal opening and distinguishing the true tract from pseudo tract. Thus, VAAFT can be considered as a “gold standard” to treat complex and recurrent anal fistula.

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