



A Video-Assisted Anal Fistula Treatment (VAAFT): A New Minimally Invasive Treatment Option for Fistula in Ano

**Nawaz Ali Dal¹, Arshad Hussain Abro¹, Muhammad Anwar Memon¹,
Ahmer Akbar Memon¹, Muhammad Qasim Mallah¹, Danish Haider Khoso²
and Ubedullah Shaikh^{3*}**

¹Department of Surgery, Liaquat University of Medical and Health Sciences, LUMHS, Jamshoro, Pakistan.

²Sligo University Hospital Sligo, Ireland.

³Services Hospital, Sindh Government Karachi Sindh, Pakistan.

Authors' contributions

This work was carried out in collaboration among all authors. Authors NAD and AHA were involved in conception of idea and study design. Authors MAM and DHK did data collection and performed bench work. Author US performed the statistical analysis. Authors AAM and MQM managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Objective: To determine the outcome of video-assisted anal fistula treatment (VAAFT): A new minimally invasive treatment option for fistula in ano.

Study Design: This is an observational study.

Setting: Study carried out at General Surgery department, Liaquat University of Medical and Health Sciences Jamshoro, from January 2020 to June 2020.

Material & Method: Inclusion criteria for this study were patients aged 18-60 years visiting the outpatient department with primary/recurrent fistula having symptoms. Among these individuals having anal fistula due to secondary causes like IBD, tuberculosis or any malignancy were not included in the study. VAAFT was performed by experience general surgeon and post-operative

*Corresponding author: E-mail: drubedullah@gmail.com;

follow up was done till 1 years.

Results: A total of 68 patients with fistula in ano were selected for video assisted anal fistula treatment (VAAFT) in our setup. It included 67.6% (n=46) males and 32.3% (n=22) females who agreed for the procedure. The mean age of patients were found to be 43+13 years. Post-operatively complete healing was observed in 75% (n=51) patients and 14.7% patients had persistent fistula after the procedure.

Conclusion: VAAFT is a minimally invasive surgical intervention implied to treat primary and recurrent anal fistulas, having lesser rates of recurrence and few post-operative complications. It should be implied over large scales for treatment of primary and recurrent anal fistula as it carries the lowest rate of anal incontinence.

Keywords: Fistula in ano; video-assisted anal fistula treatment; minimally invasive treatment.

1. INTRODUCTION

Fistula in ano is an abnormal connection lined with granulation tissue connecting anal skin to opening in the perianal skin. There could be multiple openings from a primary opening or separate secondary channels extending to perianal skin [1]. The most common presenting complain in this condition is seropurulent discharge and itching of perianal skin with discomfort. As seen clinically, it almost never heals spontaneously and requires primary surgery for closure of abnormal connection. Surgical treatment options for such cases include fistulectomy, fistulectomy with seton tie were performed conventionally, but the rate of recurrence is still high [2]. Surgical techniques for fistula vary on the location and duration of fistula present, especially if the fistula is near the anal sphincter [3]. Anatomically anal fistula can be divided into intersphincteric, transphincteric, suprasphincteric and extrasphincteric with respect to their location with anal sphincter [4]. Assessment of anal fistula must be done by appropriate history, digital rectal examination and magnetic resonance imaging. Anal fistula is usually a complication of untreated or incomplete treatment of perianal abscess [5]. Magnetic resonance imaging provides accurate information about the fistula and sepsis for primary and recurrent anal fistula. In various studies, MRI has been proven superior to EUA in detecting secondary extensions of fistula and its relation to anal sphincter [6]. Recurrence of anal fistula is a devastating complication occurring after surgery and can lead to multiple complications. Complications of recurrent anal fistula are fibrosis, scarring of anal sphincter, need for several surgical interventions and morbidity [7]. The recurrence of anal fistula carries financial burden as well as degradation of quality of life. Post-operative outcomes and recurrence of fistula depends on various environmental and

patient factors. Non-modifiable factors amongst them include age, gender, obesity, diabetes mellitus and type of fistula present [8]. Factors which can be modified to decrease recurrence of anal fistula include operative technique used and post-operative care [9]. VAAFT is a newly proposed technique for treatment of anal fistula that visualizes the secondary extensions of fistulous tracts and internal openings with destruction of any granulation tissue through fistuloscope inserted by the external anal opening [10]. In a previous study 87.1% had complete healing of anal fistula after VAAFT having one year follow up with no recurrence. VAAFT is a considerably expensive procedure than other conventional methods used but the fistuloscope is reusable and on the other hand it provides the patient with early recovery, lesser hospital stay and few complications [11]. The objective of our study is to determine the healing and recurrence of anal fistula after VAAFT procedure in our hospital.

2. MATERIAL & METHOD

This is an observational study of 66 patients who underwent the video assisted anal fistula treatment was carried out in the department of general surgery Liaquat University of Medical and Health Sciences, Jamshoro from January 2020 to June 2020. All the patients were allowed to withdraw from the study any time. Inclusion criteria for this study were patients aged 18-60 years visiting the outpatient department with primary/recurrent fistula having symptoms. Among these individuals having anal fistula due to secondary causes like inflammatory bowel disease (IBD), tuberculosis or any malignancy were not included in the study.

2.1 Preoperative Workup

Complete history and physical examination (DRE) to assess internal opening and other

associated pathology was done. Clinical examination was completed by proctoscopy and endoanal sonography. All patients were given enema on the morning of surgery along with single dose prophylactic antibiotic dose of 1gm of cefotaxime (third generation cephalosporin).

2.2 Surgical Intervention

The procedure was performed with patient in lithotomy position under general anesthesia using Meinro and Mori technique. Video assisted anal fistula treatment is done in two phases, the first one is diagnostic and the second is operative phase. During the first phase, the fistuloscope is inserted through the external anal opening to visualize fistula tracts and suturing it. In the second phase, electrode is inserted into the tract and ablates any fistula tracts found destroying any granulation tissue.

2.3 Post-Operative Care and Follow-Up

Post-operatively analgesia was provided with paracetamol to all patients. All the participants were followed up in the OPD at 2 and 4 weeks post operatively to look for healing, pain and time required to return to job. Long term follow up was done at 6 and 12 months after the procedure to assess the healing of fistula, anal sphincter control, patient satisfaction and recurrence of fistula after one year of procedure.

2.4 Statistical Analysis

Basic demographic data like age, gender, operative time, hospital stay and time required to achieve complete healing was noted. Anal continence scores before and after the procedure were taken along with patient satisfaction and incidence of recurrence. Continuous data was represented as mean + SD and paired t test was performed to compare continence scores. P-value of <0.05 was considered to be significant.

3. RESULTS

A total of 68 patients with fistula in ano were selected for video assisted anal fistula treatment (VAAFT) in our setup. It included 67.6% (n=46) males and 32.3% (n=22) females who agreed for the procedure. The mean age of patients were found to be 43+13 years. Among these patients 39 individuals had recurrent anal fistula and rest of 29 had primary anal fistula to be treated. Post-operatively complete healing was observed in

75% (n=51) patients and 14.7% patients had persistent fistula after the procedure. Complete failure of fistula repair was found in 25% patients among which 7 had primary fistula. After 1 years of follow up recurrence of fistula was found in 11.76% (n=8) participants and 88.23% (n=60) were found to be completely successful.

The procedure was performed as day care cases. At 1 week post-operatively 83% patients had pain score of <3 (mild pain) on the VAS scale and rest of 17% had pain score of 3-6 (moderate pain) and no patient having score of >7 (severe pain). The average time required for patients to return to work/daily activities was 7.4 + 2 days. Post-operative complications and their incidence have been shown in Table 1.

4. DISCUSSION

Anal fistula is one of the most prevalent ailments to be treated by general surgeons and the incidence rate is 2 times more in men than women. The most common presenting complaints of patients with anal fistula are recurrent abscess with pus discharge or fistula; in severe cases may present with sepsis [12]. The goal for treatment in anal fistula is eradication of fistula and preservation of anal continence by surgical interventions [13]. Surgical interventions are classified into two groups depending upon the degree of anal sphincter preservation; sphincter conserving procedures include LIFT procedure, Seton placement or mucosal advancement flap [14]. Partial sphincter conserving procedures comprise of fistulotomy, fistulectomy and cutting Seton [15]. Recurrence of anal fistula after surgical intervention is the most devastating and troublesome complication encountered by patients as well as surgeons. It affects patient's quality of life and increase health care costs with higher risk of anal incontinence and anal stenosis [16]. The rate of anal fistula recurrence can vary from 3% to 57% depending on the risk factors like patient's age, gender, smoking status, comorbidities and type of fistula present [17]. Complex anal fistula are very difficult to treat, VAAFT technique has been used on the rationale for accurate detection of fistulous tracts and their destruction with lesser rate of infection [18]. This technique is based on the rationale of minimal damage to the anal sphincter and adequate closure of internal anal openings and fistulous tracts. The success rates of vaaft in various studies have reached up to 95% as compared to LIFT procedure having average

Table 1. Post-operative complications after video-assisted anal fistula treatment (VAAFT)

Complication	Frequency (n)	Percentage (%)	Treatment
Bleeding	7	10.29%	Conservative
Urinary retention	10	14.70%	Conservative
Perianal edema	4	5.88%	Conservative
Recurrence	8	11.76%	Re-operated

success rate of 65% [19]. In our study after 1 years of follow up 88.23% VAAFT procedures were found to be completely successful. As VAAFT is a newer technique requiring expertise, the operating time was higher in earlier studies whereas after practice surgeons were able to reduce the operating time from 145 to 30 minutes. The rate of recurrence of anal fistula after VAAFT in our study was found to be 11.76% which is much less compared to recurrence rate of 17% with fistulotomy [20]. VAAFT also has the benefit of lower complication rate and also in our study the complications were simple enough to be handled conservatively.

5. CONCLUSION

VAAFT is a minimally invasive surgical intervention implied to treat primary and recurrent anal fistulas, having lesser rates of recurrence and few post-operative complications. It should be implied over large scales for treatment of primary and recurrent anal fistula as it carries the lowest rate of anal incontinence.

CONSENT

It's not applicable.

ETHICAL APPROVAL

Our institutional review board approved this study. Informed consent was obtained from all patients before the surgical procedure.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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