

ORIGINAL ARTICLE

Frequency of Healing of Fistula in Patients Undergoing Video Assisted Anal Fistula Treatment in High Lying Fistula in Ano

MUHAMMAD AFZAL¹, MUHAMMAD JUNAID SHAH², MUJEEB ALAM KHAN³, AFTAB ULLAH⁴

¹Department of Surgery, DHQ Hospital, Batagram-Pakistan.

²Department of Surgery, Mufti Mehmood Memorial Teaching Hospital, Dera Ismail Khan-Pakistan

³Department of Biochemistry, Bacha Khan Medical College, Mardan-Pakistan.

⁴Department of Medicine, RHC Ayun, Chitral-Pakistan.

Correspondence to Dr. Muhammad Junaid Shah; Email: dr.jshah@yahoo.com Tel:+92-333-9966769

ABSTRACT

Background: Fistula-in-ano is an abnormal tract that usually connects rectal mucosa and perianal skin thus accounting upto 90% cases with an incidence of 5.6/100.000 in women while 12.3/100.000 in men.

Aim: To determine the frequency of healing in patients with high lying fistula in ano undergoing VAAFT.

Study design: Cross-sectional study.

Methodology: Patients (n=153) were enrolled during study. All enrolled patients had DRE and proctoscopy before start of treatment. Fistuloscope was used to diagnose high lying fistula during examination. Metronidazole antibiotic was given to all patients both pre and post-surgery. SPSS v.26 analyzed the data. Stratification of healing data was done with respect to age and gender. Post stratification Chi-Square test was applied with P-value ≤ 0.05 was taken as significant.

Results: Almost 77% were males while rest (23%) patients were females. Results showed healing in 70% of patients while 30% patients failed to heal.

Practical Implication: This study showed that VAAFT procedure is safe as a treatment modality in comparison to Anal Fistula Plug and conventional Seton placement for complex fistulas or high anal fistulas thus advocated sphincter saving procedure in our setups. **Conclusion:** It was concluded that this new surgical technique has advantages like sphincter-saving with small surgical wounds. However, fistuloscopy identifies secondary tracts or chronic abscesses.

Keywords: Healing, High Lying Fistula and VAAFT.

INTRODUCTION

Fistula-in-ano is a chronic condition that leads to abnormal communication between two surfaces. It usually connects ano-rectal lumen to an external opening on the skin of the perineum¹. There are many ways to perform surgical treatments for fistula. Open surgical procedures include fistulotomy and fistulectomy but they are used for low lying fistulae. These procedures can be adopted for high lying fistulae but increases the risk of incontinence as revealed by literature review².

Literature has shown that it develops mostly after an abscess of crypto-glandular origin but there is strong association of inflammatory bowel disease, trauma and carcinomas with it. It is more common in males than females having ratio (2:1)³. Various classifications are used for fistula identification but Park classification is widely used nowadays. It explains the course of fistula in relation to the sphincter mechanism thus classify fistulas into simple or complex category. Simple anal fistulas have one tract that crosses <30% of external anal sphincter. Complex anal fistulas have multiple tracts that crosses >30% of external anal sphincter⁴.

Clinical picture of patients having anal fistulas is variable. Their symptoms include pain, swelling, redness, foul smelling discharge from peri-anal, anal and perirectal tissues⁵. Although fistulas are a common surgical issue especially among males yet its treatment remained a big challenge for medical team. Literature review showed that long-term antibiotics prophylaxis along-with infliximab play a role in recurrent fistulas among patients having Crohn disease⁶.

Poor hygiene at the anal area leads to sepsis/abscess formation even after surgery. Even after all odds, surgical treatment option remains the priority followed by medical treatment. Surgical procedure is done in-order to drain infection, eradicate the fistulous tract, and avoid persistent or recurrent disease while preserve anal sphincter function⁷.

VAAFT procedure has diagnostic and therapeutic phases. Procedure (VAAFT) is complex in comparison to other techniques. This procedure requires Meinero Fistuloscope for identification of the external opening. Upon entering into fistula tract, cauterization

Accepted on 27-10-2022

of tract with unipolar electrode is done⁸. Literature review revealed that almost there is 12% incidence of incontinence after complex fistula treatment with traditional techniques like fistulectomy and cutting seton. However, re-opening of wound is done in complicated cases².

Previous studies showed that VAAFT procedure is safe as a treatment modality in comparison to Anal Fistula Plug and conventional Seton placement for complex fistulas⁹. Due to lack of local data regarding the results of this new modality for fistula treatment, we planned current study in order to evaluate healing among high lying fistula with VAAFT.

The objective of the study was to determine the frequency of healing in patients with high lying fistula in ano undergoing VAAFT.

METHODOLOGY

Patients (n=153) were enrolled during study after IRB permission. Present study involved General Surgery Department, Khyber Teaching Hospital, Peshawar. It was a descriptive cross sectional study. Consecutive Non-probability sampling was done. Patients with both genders having age between 16 to 70 years, with high lying Fistula in Ano for more than two weeks duration, diagnosed on examination with Fistuloscope were included. All enrolled patients had DRE and proctoscopy before start of treatment. Fistuloscope was used to diagnose high lying fistula during examination. Metronidazole antibiotic was given to all patients both pre and post-surgery. Voltral suppositories were placed post-operatively. Patients were discharged after 24 hrs post-operatively and follow-up was done after 6 weeks. Written informed consent was taken. Patients who were reluctant, immune-compromised and had colorectal malignancy were excluded from study.

Statistical analysis: SPSS v.26 analyzed the data. Frequency and percentages were computed for categorical variables like gender and healing. Stratification of healing data was done with respect to age and gender. Post stratification Chi-Square test was applied with P-value ≤ 0.05 was taken as significant.

RESULTS

Received on 11-06-2022

Gender distribution showed that 118(77%) were males while 35(23%) were females as shown in table-1. Other descriptive parameters of enrolled subjects were shown in table-1.

Table-1: Baseline parameters (n=153)

Categories	Study Sample
Age (years)	
30-40	122 (80%)
41-50	26 (17%)
51-60	05 (3%)
Mean \pm SD	38 \pm 2.03
Gender	
Male	118 (77%)
Female	35 (23%)
Duration Of Disease (months)	
<1	58 (38%)
>1	95 (62%)
Healing	
Yes	107(70%)
No	46 (30%)

Data was stratified for age and gender as shown in Table-2. Results showed that there was significant improvement in healing rate among participants when stratified according to different age groups. Moreover, significant difference was seen when they were stratified for healing among both males and females as shown by table-2.

Table 2: Stratified data with age and gender

Age (years)	Healing		P-value
	Yes	No	
30-40	85	27	0.003*
41-50	18	08	
51-60	04	01	
Gender			
Male	83	35	0.002*
Female	24	11	

*Statistically significant

DISCUSSION

With advancement in medical field in current era, several new sphincter preserving techniques have been developed. In comparison to other less invasive techniques, VAAFT is a unique procedure in regard as it visualizes entire fistula tract, secondary tracts and the internal fistula openings. This procedure is usually indicated for complex anal fistulas. Its success is dependent on identification of all tracts during the diagnostic phase. In fistulas with multiple branches, MRI correlation is useful. Secondly, destruction of all granulation tissue followed by evacuation of necrotic tissue from fistula tract during the operative phase.

Our study showed 80% patients were in age range 30-40 years, 17% patients were in age range 41-50 years, 3% patients were in age range 51-60 years. Mean age was 38 years with SD \pm 2.03. Seventy seven percent patients were male and 23% patients were female.

Our results showed that this is a safe and anal sphincter saving techniques in relation to healing and patient satisfaction level. Results showed healing in 70% of patients while 30% patients failed to heal. Similar results were shown by other study when they employed it in terms of healing and patient satisfaction¹⁰.

One previous researcher showed that this new technique has a success rate of around 75%. Majority of the patients (60%) had normal continence post-operatively 60% had normal while 40% patients had incontinence for gas or fecal soiling after the procedure¹¹. Thus their success rate was close to our success rate for same procedure.

One study enrolled 136 patients with non-Crohn' disease-related anal fistulae, within 2-3 mo of follow-up, gained an overall success rate of 73.5%. No postoperative incontinence or its worsening was reported¹². There were minimal postoperative wounds. However, it shouldn't be denied that in some cases, an excessive dilatation of the fistula to insert the fistuloscope, the risk

of missing other secondary tracts or the internal opening itself and also, the risk of thermal damage by the electrode happened. Therefore, improvements of the technique and further studies are required. Thus, their results were in line with our findings.

Our results showed that this was a safe procedure as there was early recovery, minimal surgical wound and pain. This showed that patient can do normal life activities again in few days after treatment. Literature review showed similar findings when treated their patients with VAAFT thus in-line with our findings¹³.

In our study, males (77%) were the major victims of anal fistula while only 23% females had that disease. Similarly, another study showed that only 12.5% females had anal fistula¹⁴. Thus our enrollment of males as majority in present study was similar to many other studies.

One study showed that the median follow-up was after 7.4 months.¹⁵ Only one minor form of incontinence (limited soiling) was observed and no complications occurred. The use of a novel diode laser source and a radial emitting laser probe in addition to conventional surgery was a very promising new technique in sphincter-preserving anal fistula repair. The observed healing rate was high. Due to minimized trauma to the sphincter muscle, there were good short-term functional results without observable procedure-related complications. Paradoxically, follow-up after treatment in our study was at 6 weeks. However, in above mentioned study primary healing was seen in 09 out of 11 fistulas.

Limitations: Single centre study with financial constrains. Lack of genetic workup was a limitation too.

CONCLUSION

It was concluded that this new surgical technique has advantages like sphincter-saving with small surgical wounds. However, fistuloscopy identifies secondary tracts or chronic abscesses.

Author's contribution: **MA:** Overall supervision, write up and literature review, **MJS:** Statistics application, analysis literature review, help in write up, **MAK & AU:** Literature review help in write-up.

Conflict of interest: None

Funding: None

REFERENCES

- Chi-Ming P, Chung-Kei ND, Ho-Yin CM, Shiu-Ki LR, Heng-Tat H. Recurrence pattern of fistula-in-ano in a Chinese Population. *J Gastrointest Liver Dis.* 2008;17(1):53-7.
- van Koperen PJ, Bemelman WA, Bossuyt PMM, Gerhards MF, Eijbsbouts QAJ, van Tets WF, et al. The anal fistula plug versus the mucosal advancement flap for the treatment of anorectal fistula (PLUG trial). *BMC Surgery.* 2008;8:11-13.
- Zelić M, Karlović D, Kršul D, Bačić D, Warusavitarne J. Video-assisted anal fistula treatment for treatment of complex cryptoglandular anal fistulas with 2 years follow-up period: our experience. *J Laparoendosc Adv Surg Tech.* 2020;30(12):1329-33.
- Sileri P, Cadeddu F, D'Ugo S, Franceschilli L, Blanco GDV, De Luca E, et al. Surgery for fistula-in-ano in a specialist colorectal unit: a critical appraisal. *BMC Gastroenterol.* 2011;11:120-121.
- Bleier JIS, Moloo H. Current management of cryptoglandular fistula-in-ano. *World J Gastroenterol.* 2011;17(28):3286-91.
- Mahajan MK, Gupta V, Anand SR. Evaluation of fustulectomy and primary skin grafting in low fistula in Ano. *JK Science.* 2007;9(2):68-71.
- Bhatti Y, Fatima S, Shaikh GS, Shaikh S. Fistulotomy versus fistulectomy in the treatment of low fistula in ano. *Rawal Med J.* 2011;36(4):284-6.
- Shawki S, Wexner SD. Idiopathic fistula-in-ano. *World J Gastro-enterol.* 2011;17(28):3277-85.
- Fucini C, Giani I. Why do we have to review our experience in managing cases with idiopathic fistula-in-ano regularly? *World J Gastroenterol.* 2011;17(28):3297-9.
- Jain BK, Vaibhaw K, Garg PK, Gupta S, Mohanty D. Comparison of a fistulectomy and a fistulotomy with marsupialization in the management of a simple anal fistula: a randomized, controlled pilot trial. *J Korean Soc Coloproctol.* 2012;28(2):78-82.
- Salem OTA. Fistulectomy and fistulotomy for low anal fistula. *Rawal Med J.* 2012;37(4):409-11.
- Meinero P, Mori L. Video-assisted anal fistula treatment (VAAFT): a novel sphincter-saving procedure for treating complex anal fistulas. *Tech Coloproctol.* 2011;15(4): 417-22.
- Cirocchi R, Santoro A, Trastulli S, Farinella E, Di Rocco G, Vendettuali D, et al. Meta-analysis of fibrin glue versus surgery for treatment of fistula-in-ano. *Ann Ital Chir.* 2010; 81:349-356.
- Sun MR, Smith MP, Kane RA. Current techniques in imaging of fistula in ano: three-dimensional endoanal ultrasound and magnetic resonance imaging. *Semin Ultrasound CT MR.* 2008;29(6):454-71.
- Ratto C, Grossi U, Liotta F, et al. Contemporary surgical practice in the management of anal fistula: Results from an international survey. *Tech Coloproctol.* 2019;23:729-741.

ORIGINAL ARTICLE