

# Management of High Anal Fistula With Cutting Seton

Ainul Hadi,<sup>1\*</sup> Shehla Faridoon<sup>1</sup>

## ABSTRACT

*Objective* To evaluate the utility of cutting seton in the treatment of high fistula-in-ano.

*Study design* Descriptive case series.

*Place & Duration of study* Surgical B Unit, Hayatabad Medical Complex, Peshawar, from November 2021 to October 2022.

*Methodology* Patients with the diagnosis of high anal fistulae were included. In all patients proctoscopy was done. Fistulogram was performed in all patients while MRI was requested in selected cases. Patients with Crohn's disease, tuberculosis, HIV infection, malignancy and complex fistulae with multiple external openings, were excluded. Informed consent was taken after approval of the study from institution review board.

Bowel preparation was started a day before surgery. Procedure was performed under general or spinal anesthesia. Polypropylene size 1 (Prolene® Ethicon) was used as a cutting seton. Patients were discharged on the following day after surgery. Oral antibiotics and laxative were prescribed. Special instructions were given on personal hygiene. Patients were advised to visit after two weeks for tightening of seton. Follow up continued for six months. Data were recorded and analysed on SPSS 22. Descriptive statistics were used to present data in numbers and percentages.

*Results* A total of 42 patients were included. There were 35 (83.3%) males and 07 (11.7%) females patients with M:F of 5:1. Age of the patients was from 23 years to 68 years with the mean age of 39±6.5 years. There were 31 (73.8%) were primary and 11 (26.2%) recurrent fistulae. Different types of fistula included transsphincteric (n=25 -59.5%), intersphincteric (n=12 - 28.6%) and suprasphincteric (n=5 - 12.0%). In 25 (59.5%) patients the internal opening was located at dentate line while in 17 (40.5%) it was above that level. The external opening was located posteriorly in 35 (83.3%) patients. Seton cutting fistulotomy completed within 4-8 weeks and wound healing occurred within 10 weeks. Post procedure minor incontinence to flatus was reported in 05 (12.0%) and recurrence of fistula in 02 (4.7%) patients. The overall success rate was 95.2% (n=40).

*Conclusion* Cutting seton is an effective and safe technique for high anal fistula with acceptable low rates of minor flatus incontinence and recurrence rate.

*Key words* High fistula-in-ano, Cutting seton, Recurrent fistula-in-ano, Fecal incontinence.

<sup>1</sup> Department of of Surgery, Surgical B Unit, Hayatabad Medical Complex Peshawar.

## Correspondence:

Dr. Ainul Hadi <sup>1\*</sup>  
Department of Surgery, Surgical B Unit  
Hayatabad Medical Complex  
Peshawar  
Email: surgeonhadi05@yahoo.com

## INTRODUCTION:

Fistula-in-ano is a commonly encountered perianal pathology which is significantly affect the quality of life of the patients.<sup>1</sup> Fistula-in-ano occurs as a nonspecific condition due to infection of the anal glands in the intersphincteric space. Fistula-in-ano is more common in females as compared to males worldwide.<sup>2</sup> Approximately 80% of anal fistulae occur as a result of anorectal infection. In United States, the prevalence of anal fistula is 34% while in Western

countries it is 25%.<sup>3,4</sup> In developing countries, the frequency of anal fistula is approximately 12%.<sup>5</sup> A study from Pakistan reported a frequency of 10% with male predominance.<sup>6</sup> Fistula-in-ano may also occur in association with different specific conditions like tuberculosis, Crohn's disease and others.<sup>7</sup>

Park's classification is the most often used to divide anal fistulae as intersphincteric transphincteric, suprasphincteric and extrasphincteric.<sup>7</sup> A fistula can be diagnosed by careful physical examination and with radiological aid.<sup>8,9</sup> High anal fistula can be treated with different techniques which include fistulectomy with covering colostomy, two stage fistulotomy, advancement flap procedure, use of fibrin glue and plug, video assisted anal fistula treatment (VAAFT) with 73.5% success rate, fistula – tract laser closure (FiLaC) with overall healing rate of 64.1% and placement of seton. The new modalities of treatment are associated with higher rates of failure and functional disability.<sup>7,10</sup>

A seton is typically made of silk suture, silastic or elastic band. Functionally seton is of two types. The draining seton is effective to control the perianal sepsis. It also prevents the blockage of fistulous tract and allows the tract to mature. It is specifically useful in the management of complex fistula.<sup>11</sup> It can also be used to shorten the fistulous tract, to decrease the size of wound over time especially if the external opening is located away from the anal verge.<sup>12</sup> The cutting seton has been used in the management of complex fistula-in-ano. The seton is tightly secured within the fistulous tract with internal pressure applied on the tract. The seton is tightened every two weeks. Cutting of the muscle fibres and fibrosis from above occur simultaneously until fistulotomy completes and the tract is exteriorized.<sup>13</sup> The objective of this study was to find the post procedure outcome of seton placement for high anal fistula.

#### **METHODOLOGY:**

This was a descriptive case series conducted at Surgical "B" unit, Hayatabad Medical Complex (HMC) Peshawar, from November 2021 to October 2022. The study was approved from Institutional Ethical Review board (IRB NO: 1269). All patients presented to outdoor patient department with pain, discharge, perianal swelling and bleeding. A high anal fistula was labelled if the internal opening was located above or at the level of dentate line.

Patients with high fistula-in-ano associated with Crohn's disease, tuberculosis, and others were excluded. Patients with complex fistulae having multiple external openings and where internal

opening was located high in the pelvis were not enrolled. Detailed history was taken and perineal examination including digital rectal examination and proctoscopy, were performed to locate the internal opening. Fistulogram was performed in all patients while MRI was advised in selected cases. Informed consent was taken. Castor oil mixed in fruit juice was given in the afternoon a day before surgery. The bowel was evacuated with enema. Seton placement was performed in a lithotomy position under general or spinal anesthesia. Polypropylene 1 (Prolene® Ethicon) was used as a seton. The suture was introduced through the fistulous tract with the help of a probe and both ends were tightly tied at the anal verge. Following day the patients were examined for any bleeding and then discharged to be followed in outpatient department after every two weeks for tightening of seton. Tablet metronidazole was prescribed for five days with pain killers and laxatives. Perineal hygiene was advised. Patients were followed up in the clinics till complete wound healing. Follow up continued monthly for six months. Data were entered and analysed with SPSS version 22. Descriptive statistics were used to present data in numbers and percentages.

#### **RESULTS:**

A total of 42 patients with 35 (83.3%) males and 07 (16.7%) females were included. Male to female ratio was 5:1. The age of the patients was from 23 years to 68 years with a mean age of 39± 6.5 years. Details are given in table I.

In this study, 73.8% patients had primary fistula while 26.2% had recurrent fistula-in-ano. Twenty-five (59.5%) patients had transsphincteric, 12 (28.5%) intersphincteric and 05 (12.0%) suprasphincteric fistulae. In 25 (59.5%) patients the internal opening of fistula was found at the level of dentate line while 17 (40.5%) had internal opening above this level. Thirty-five (83.3%) patient had posteriorly located internal opening. In eight patients the internal opening could not be localized during the procedure. An intravenous cannula was passed through the external opening and hydrogen peroxide solution was injected into the fistulous tract. Bubbles of hydrogen peroxide solution were seen coming out of the internal opening, and helped in localization of opening. Distance of external opening from anal verge was less than 2.5cm in 17 (40.5%) and more than this in others.

During follow up visits, 29 (69.1%) patients had complete fistulotomy through cutting seton in 4-6-week time while in 13 (30.9%) patients it took 7-8

**Table I: Age Distribution**

Age (Years)	Male (n=35)	Female (n=07)	Total (%)
23-30	09	02	11 (26.1%)
31-40	20	02	22 (52.2%)
41-50	04	01	05 (12.0%)
51-60	01	02	03 (7.2%)
61-68	01	00	01 (2.5%)
Total	35 (83.3%)	07 (16.7%)	42 (100%)

**Table II: Postoperative Outcome**

Outcomes	No of Patients- n (%)
Pain	12 (28.5%)
Infection with pus discharge	08 (19.1%)
Minor incontinence to flatus	05 (12.0%)
Recurrence rate	02 (47.6%)
Success rate	40 (95.2%)

weeks. Complete wound healing was noted in 18 (42.8%) patients in 7-8 weeks. By 9-10 weeks all wounds healed. Postoperative outcome is given in table II.

#### DISCUSSION:

This study showed high success rate of seton placement for high fistula-in-ano. Seton helps in drainage and also initiates the process of fibrosis as it cuts through the fistulous tract as well as sphincter muscle fibers. It has an advantage of being safe with low risk of recurrence.<sup>14</sup> In this study, the time taken for seton to cut through the fistulous tract was 4-6 week in majority of the patients. The time reported in other series is almost similar.<sup>15,16</sup> Following completion of fistulotomy through cutting seton, wound healing is not very troublesome for most of the patients though complete wound healing takes many weeks. Our results are comparable with other studies.<sup>17,18</sup>

Treating fistula-in-ano with seton usually does not cause much pain. A study reported post-procedure pain in 52.2% patients which is quite significant.<sup>19</sup> Pain was reported by 28.5% patients in our study. Different suture material have been tried as a seton.<sup>20</sup> Seton is a foreign body thus always results in some degree of infection. This is usually in the form of localized inflammation or pus discharge. This was noted in eight patients in our series. Wound healing following fistulotomy by cutting seton usually occurs smoothly. However, the chances of incontinence always exist. In the index study five patients had minor incontinence to flatus but this issue resolved

after complete wound healing and physiotherapy. Aman et al reported 10% minor incontinence to flatus.<sup>17</sup> Memon et al followed patients for one year. There was no complaint of incontinence even after long follow up.<sup>18</sup> No incontinence has been reported following two stage and three stage seton fistulotomy.<sup>21</sup>

The success of a procedure depends upon the recurrence rate. In most of the patients healing occurs uneventfully. In our study two patients developed recurrent fistula. The reported frequency of recurrent fistula varies from 1% to 5% when using cutting seton for fistula-in-ano.<sup>15,17</sup> However, Hussein et al mentioned 19% recurrence rate.<sup>22</sup> In the current study the success was reported in 40 (95.2%) patients. This is quite acceptable and comparable with the reported literature.

#### LIMITATIONS OF THE STUDY

It was a single center study with small number of patients. Prolene® Ethicon suture was used as a seton with short duration of follow up.

#### CONCLUSION:

Management of high fistula-in-ano by cutting seton technique is found safe and effective in large number of patients. There were acceptable low post-procedure morbidity, minor incontinence for flatus and recurrence rate.

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