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Research Article

**A THREE MONTHS WOUND RECOVERY IN HIGH FISTULA-  
IN-ANO CASES MANAGED THROUGH CUTTING SETON  
(SILASTIC TUBE, LINEN, SILK, RUBBER BAND, BRAIDED  
SILK, VASCULAR LOOP, BRAIDED POLYESTER, NYLON,  
POLYPROPYLENE AND CABLE TIE)**<sup>1</sup>Hafiza Nimra Shabbir, <sup>2</sup>Bismah Jabeen, <sup>3</sup>Maryam Mumtaz<sup>1</sup>Punjab Medical College<sup>2</sup>Punjab Medical College<sup>3</sup>gujranwala medical college**Abstract:**

**Background:** High fistula-in-ano management has become a challenge for the field of surgery. Such cases cannot be managed through fistulotomy because of the involvement of the subsequent fecal incontinence and sphincter damage risk. Our research was aimed at the fecal incontinence rate determination along with recurrence in the high fistula-in-ano patients who were managed through polypropylene (prolene-1) used as a cutting seton.

**Material & Methods:** Our research was descriptive cross-sectional in nature and comprised of thirty high fistula-in-ano patients who were managed with cutting seton at Mayo, Hospital, Lahore in the timeframe of March, 2016 to September, 2017. Six monthly follow up was maintained in the patients for the documentation of the recurrence of fistula, wound healing duration and anal incontinence.

**Results:** Research sample constituted on thirty patients in the age limit of (20 – 66) years with a mean age of (40 years). A cent percent healing of the wound was noticed in the time duration of three months, we also noticed a recurrence of the fistula in 1 case (3.3%) at the interval of five months, no case was observed with the incontinence development.

**Conclusion:** High fistula-in-ano management and treatment through cutting seton is linked with very low rate of complications. We recommend it as gold standard management of the high fistula-in-ano patients for a cent percent wound recovery and non-development of incontinence.

**Key Words:** Fistula; Fistula-in-ano; Recurrence; Incontinence and Polypropylene.

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**INTRODUCTION:**

High fistula-in-ano management has become a challenge for the field of surgery. Such cases cannot be managed through fistulotomy because of the involvement of the subsequent fecal incontinence and sphincter damage risk [1-2]. Various alternative management interventions are in practice for the preservation of the sphincter mechanism, which includes cutting setons, rectal mucosal, draining setons or full advancement of thickness flaps, two-stage seton fistulotomy, rerouting, inter-sphincter fistula tract ligation, anal fistula plug, (LIFT), sphincter mechanism reconstruction fistulotomy or fibrin glue [3]. Whatever the type and the extent of fistula are, the principles of anal fistula surgery are to get rid of the fistula, prevent recurrence and preserve sphincter function.

Seton is the classical and simple intervention proved theoretically [4]. Seton is referred to any string such as a material which produces inflammatory reaction after being tied to fistula tract and resultantly it stimulates fibrosis which helps in the fixing process; it also helps in the prevention of the continuity of the sphincter at the time of bifurcation. In the process of cutting this method helps in the maintenance of the sphincter continuity [5]. Furthermore, very slowly it divides and drains the fistulous tract which results in the shape of fistula eradication and helps in the process of wound healing [6]. Numerous setons types are used to achieve this purpose such as silastic tube, linen, silk, rubber band, braided silk, vascular loop, braided polyester, nylon, polypropylene and cable tie [7]. Our research was aimed at the fecal incontinence rate determination along with recurrence in the high fistula-in-ano patients who were managed through polypropylene (prolene-1) used as a cutting seton.

**MATERIAL AND METHODS:**

Our research was descriptive cross-sectional in nature and comprised of thirty high fistula-in-ano patients who were managed with cutting seton at Mayo, Hospital, Lahore in the timeframe of March, 2016 to September, 2017. Six monthly follow up was maintained in the patients for the documentation of the recurrence of fistula, wound healing duration and anal incontinence. Every patient was observed for his detailed history and clinical assessment. We included only the high fistula-in-ano patients in the subject research. Fistula type was diagnosed through per-

operative outcomes. We did not include all the cases with fistulae which was secondary to inflammatory bowel disease, trauma and past or present malignancies including all those patients having the issues of concomitant anorectal such as hemorrhoids.

Patients were operated in general or spinal anesthesia in the lithotomy position. Identification of the internal opening was made through the injection of the hydrogen peroxide by external opening. Probing of the fistula tract was made through flexible and gentle metal probe. We passed polypropylene (Prolene-1) through tract and firmly tightened it after overlying skin cutting, fistula tract external opening excision and subcutaneous tissue. Fortnightly follow up was recommended to the patients. Seton tightening was carried out at the end of one month and after two months follow-up it was again removed. We observed that in the timeframe of two months it almost cut the fistula and sphincter. Postoperatively, anal continence, recurrence and wound healing were examined for a period of six months.

**RESULTS:**

In the total timeframe of the research thirty consecutive cases who fulfilled the inclusion criteria were managed with the help of cutting seton. Among these cases, 24 cases were male (75%) and 6 cases were female (25%). The range of the age in all the patients was observed as (20 – 66) years with a mean age of forty years. A six month follow up scheme was observed in the range of 6 – 48 weeks with a mean period of twenty-two weeks. Twenty-five cases were observed with high trans-sphincteric (83.3%) and 5 cases had supra-sphincteric fistula (16.6%). Six cases of previous surgery (20%) on fistula-in-ano, 8 cases of perianal abscess drainage and incision (26%), 5 cases of multiple external openings (16.6%); whereas, 25 cases of single external opening (83.3%). Posterior fistula was seen in 18 cases (60%); whereas, 12 cases were observed with anterior fistulae (40%). In the time of seventy-five days twenty-five cases were recovered fully and in the timeframe of 90 – 100 days every patient recovered. Recurrence of fistula was seen in one patient (3.3%), replacement of the seton was carried out after five months with zero fecal incontinence occurrence.



**Fig1: Prolene-1 in applied to a high anterior fistula-in-ano case**

### DISCUSSION:

We used (Prolene-1) in our setting as cutting seton because of its durability, non-toxic, easily available and non-allergic characteristics. It is also available in the adorable price in sterilized packing. Various associated materials such as silastic tube, linen, silk, rubber band, braided silk, vascular loop, braided polyester, nylon, polypropylene and cable tie are also used as cutting seton. Material, incontinence rate and recurrence mainly depend on the judgement and skill of surgeon [21]. In the research sample we found zero percent incontinence & recurrence rate as 3.3% in the high anal fistula patients who were managed through cutting seton. Various outcomes have produced various rates of recurrence in the range of (0% – 18%); Whereas, a long-term rate of incontinence exceeded thirty percent [24]. Minor natured incontinence was stated by various other authors. The incontinence rate as observed zero percent in our research can be referred to meticulous surgical intervention whereby sphincter was intact. Another reason of the low rate of the recurrence as observed in this research may be attributed to the proper internal opening identification and the fistula tract extensions.

We managed the identification of internal opening in every patient in the absence of any allied radiological facility. In the management of complex cases MRI can be useful for the identification of the fistula extensions and fistula tract; however, this investigation is costly and majority of the patients are operated as they are not able to afford these investigations. Draining or loose seton is another high fistula-in-ano treatment which needs another secondary procedure known as fistulotomy [22, 23] and treatment duration is prolonged in comparison to the cutting seton [24]. Various associated interventions for the management of high fistula-in-ano also include Ligation of inter-sphincteric fistula tract (LIFT) and fibrin glue. The LIFT experience is fairly better as it has learning curve which is steep

and later is the costly intervention, less available without any associated advantage in terms of incontinence or recurrence [25, 26].

### CONCLUSION:

High fistula-in-ano management and treatment through cutting seton is linked with very low rate of complications. We recommend it as gold standard management of the high fistula-in-ano patients for a cent percent wound recovery and non-development of incontinence. It is mandatory for the surgeons that identification of the fistula extensions and internal openings while incontinence should be avoided with the help of careful process of dissection for the ultimate safety of the sphincter.

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