



COMPARATIVE STUDY OF FISTULECTOMY VERSUS FISTULOTOMY WITH MARSUPIALISATION IN MANAGEMENT OF SIMPLE ANAL FISTULA

General Surgery

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ABSTRACT

Introduction: Present study aimed to prospectively evaluate and compare fistulectomy versus fistulotomy with marsupialisation in management of simple anal fistula in terms of wound healing time, post-operative wound size, post-operative pain, wound infections, anal incontinence, recurrence and patient's satisfaction. **Material & Method:** The patients were grouped into group A - fistulectomy and group B - fistulotomy with marsupialisation. The operating time for the procedure was calculated from the start of the incision to the beginning of dressing of the postoperative wound. The initial postoperative assessment was undertaken at 24 hours following surgery. The severity of postoperative pain was assessed on a scale of 0 to 10 with help of the visual analogue scale (VAS). The anal incontinence was assessed and post-operative period followed up. During each follow-up visit, the patient was assessed for postoperative pain, wound infection, anal incontinence, time required for complete healing of the postoperative wound, recurrence of the fistula. **Results:** In present study total of 70 patients fulfilling inclusion criteria are included with mean age of 40.75 ± 9.44 yrs. Comparison of the wound size in post-operative period, the wound size is significantly smaller in fistulotomy with marsupialisation (1.6 ± 0.2) compared to patients in fistulectomy (3.0 ± 0.6) with $p < 0.05$. There was significant lower mean of the pain score among the patients of fistulectomy group compared to fistulotomy with marsupialisation with ($p < 0.05$). The wound healing time was significantly shorter in fistulotomy with marsupialisation group (4.5 ± 0.5 wks) compared to the patients in fistulectomy group (6.3 ± 0.7 wks) with ($p < 0.05$). Similarly, the post-operative wound discharge was seen significantly for shorter duration in fistulotomy with marsupialisation group (2.7 ± 1.0 wks) compared to fistulectomy group (4.6 ± 1.1 wks) with ($p < 0.05$). **Conclusion:** The fistulotomy with marsupialisation showed superior results with quicker healing, smaller wound size and shorter duration of post-operative wound discharge compared to the fistulectomy in managing the simple anal fistula.

KEYWORDS

Fistulectomy, Fistulotomy with Marsupialisation, Simple anal fistula.

I. INTRODUCTION

Anal fistula is a common disease that has long challenged surgeon's skills. If not treated properly, it will result in one or two terrible complications: Recurrence or Incontinence. Despite many preoperative investigations that can help to identify the correct anatomy of the fistula, one might face difficult or unexpected intraoperative findings that require wise decisions.¹ Appropriate decisions in such circumstances have a significant impact on the outcome of surgery and patients quality of life. Conventional surgical options for a simple anal fistula include a fistulectomy and a fistulotomy. A fistulectomy involves complete excision of the fistulous tract, thereby eliminating the risk of missing secondary tracts and providing complete tissue for histopathological examination. A fistulotomy lays open the fistulous tract, thus leaving smaller unepithelized wounds, which hastens the wound healing.^{2,3} Marsupialisation of the fistulotomy wounds can reduce the healing time further. The present study is an observational comparative study that aims to compare the fistulectomy to the fistulotomy with marsupialisation in the management of simple anal fistula.

Despite having the same operative time, fistulotomy with marsupialisation has a faster healing time, size of the post operative wound is smaller, duration of post operative wound discharge is shorter. This study will provide a better understanding of which surgical technique to choose in case of a simple anal fistula and early discharge of patient from the hospital.

II. MATERIALS & METHODS

The present observational comparative study was conducted among the patients coming to our hospital. Patients with age > 18 years and < 60 years, low trans-sphincteric fistula, inter sphincteric fistula, subcutaneous fistula, a single internal opening, a single external opening & absence of a secondary tract were included and those with recurrent fistula, associated co-morbid conditions such as anal fissure, haemorrhoids, chronic colitis, etc. and patients refusing to give consent were excluded. Patients were divided into group A -

fistulectomy and group B - fistulotomy with marsupialisation. All patients included in the study were interviewed to ascertain their clinical histories according to data collection proforma and were admitted a day prior to surgery, all necessary fitnesses were done. Informed consent was obtained from patients for participation in the study and ethical clearance was obtained from the institutional ethical board. The operative site was cleaned/shaved with aseptic precaution, operated under spinal anaesthesia. The operating time for the procedure was calculated from the start of the incision to the beginning of dressing of the postoperative wound. The initial postoperative assessment was undertaken at 24 hours following surgery. The severity of postoperative pain was assessed on a scale of 0 to 10 with help of the visual analogue scale (VAS). Patients were asked about anal incontinence. Development of incontinence was assessed using the three-point Likert scale (0, never; 1, sometimes; 2, always) according to inability to distinguish between gas and stool, difficulty in holding gas, and soiling of undergarments. All patients were followed up for a total duration of twelve weeks during the postoperative period: weekly intervals for the initial 6 weeks and 2 week intervals for another 6 weeks. During each follow-up visit, the patient was assessed for postoperative pain, wound infection, anal incontinence, time required for complete healing of the postoperative wound, recurrence of the fistula. Patients were interviewed to assess their levels of satisfaction with respect to the treatment. The patients were requested to report whether the treatment affected their lifestyles during the postoperative period in terms of physical activities, social activities, and sexual activities. All the data were collected in proforma and entered in excel sheet. The collected demographic data was summarized as frequency, percentage, mean and standard deviation. The summarised data were represented using tables, figures, bar diagram and pie charts. The mean difference between the continuous data was analysed using t-test, for follow-up data paired t-test and for categorical data chi-square test was used to determine the significance between the parameters observed in this study. P value < 0.05 was accepted as significant. Statistical analysis was performed using SPSS version 22.0 (IBM SPSS, US) software operating on windows 10.

III. RESULTS

In present study total of 70 patients fulfilling inclusion criteria were included.

Table 1: Comparison of operative time and post-op wound size between the groups

	Fistulectomy (Mean $\pm$ SD)	Fistulotomy with marsupialisation (Mean $\pm$ SD)	p-value
Operative time in mins	27.8 $\pm$ 3.7	29.5 $\pm$ 4.3	0.083
Post OP wound size in cm ²	3.0 $\pm$ 0.6	1.6 $\pm$ 0.2	0.01

The operative time in both the groups were similar with no significant difference in the time required with $p > 0.05$. Comparison of the wound size in post-operative period: the wound size is significantly smaller in fistulotomy with marsupialisation (1.6 $\pm$ 0.2) compared to patients in fistulectomy (3.0 $\pm$ 0.6) with $p < 0.05$.

Table 2: Comparison of wound healing time between the groups

		Fistulectomy		Fistulotomy with marsupialisation		p-value
		Count	N %	Count	N %	
Wound healing time in weeks	4.0	0	0.0%	16	45.7%	0.01
	5.0	5	14.3%	19	54.3%	
	6.0	16	45.7%	0	0.0%	
	7.0	14	40.0%	0	0.0%	
Mean $\pm$ SD		6.3 $\pm$ 0.7		4.5 $\pm$ 0.5		

On assessment of wound healing time, there is significant shorter healing time in fistulotomy with marsupialisation group (4.5 $\pm$ 0.5wks) compared to the patients in fistulectomy group (6.3 $\pm$ 0.7wks) with ($p < 0.05$).

Table 3: Comparison of post-op wound discharge between the groups

		Fistulectomy		Fistulotomy with marsupialisation		P-value
		Count	N %	Count	N %	
Post OP wound discharge in weeks	1.0	0	0.0%	2	5.7%	0.01
	2.0	0	0.0%	16	45.7%	
	3.0	7	20.0%	7	20.0%	
	4.0	11	31.4%	10	28.6%	
	5.0	7	20.0%	0	0.0%	
Mean $\pm$ SD		4.6 $\pm$ 1.1		2.7 $\pm$ 1.0		

Similarly, the post-operative wound discharge was seen significantly for shorter duration in fistulotomy with marsupialisation group (2.7 $\pm$ 1.0wks) compared to fistulectomy group (4.6 $\pm$ 1.1wks) with ($p < 0.05$).

IV. DISCUSSION

In present study total of 70 patients fulfilling inclusion criteria are included with mean age of 40.75 $\pm$ 9.44yrs. Among them 51.4% were male and 48.6% were female patients. The patients were grouped into two groups, based on type of management as 35 patients in fistulectomy and 35 patients in fistulotomy with marsupialisation. The age and gender distribution between the groups were comparable with no significant difference noted with ($p > 0.05$). In present study the presence of diabetes mellitus, hypertension, pre-operative pain, discharge, bowel habits, history of smoking and alcohol consumption were comparable between the groups with no significant difference.

In similar to present study, Aslam D et al., documented the mean pain score in group B was substantially lower than in group A (3.6 $\pm$ 1.99 versus 2.40 $\pm$ 1.52; $p < 0.01$). The mean wound healing time in group B was shorter than in group A (4.23 $\pm$ 0.77 versus 5.80 $\pm$ 0.41 weeks; $p < 0.05$). Fistulotomy with marsupialisation is a simpler, less invasive, and more successful therapeutic option than fistulectomy for uncomplicated perianal fistula.²⁶

In another study by Gupta R et al., documented wound size in the fistulotomy with marsupialisation group was lower (1.96 cm² $\pm$ 0.52) than in the fistulectomy group (3.38 cm² $\pm$ 0.46). The wound discharge was less in the fistulotomy with marsupialisation group (2.23 wk +

0.65) than in the fistulectomy group (4.81 weeks $\pm$ 0.79). There was no difference in the pain scores between the two groups 24 hours and 12 weeks following surgery. Faster recovery, less length of wound discharge, shorter wound healing time, smaller wound size, and less complications make fistulotomy with marsupialisation a far safer and more cost-effective treatment option for anorectal fistula. Also, postoperative wound healed faster in the fistulotomy with marsupialisation group (4.30 $\pm$ 0.64 weeks) than in the fistulectomy group (7.38 $\pm$ 1.83).²⁵

Chalya PL et al., documented that there was no recurrence of anal incontinence in either group of participants. There were no variations in the severity of the detrimental consequences of surgery on the patients' physical, social, and sexual life between the two groups. In compared to a fistulectomy, also concluded that a fistulotomy with marsupialisation resulted in quicker wound healing and a shorter duration of wound discharge and should thus be suggested as a routine surgical approach in the treatment of low fistula-in-ano.²³

Wang et al., documented that fistulectomy exhibited the lowest recurrence rate (Probability P = 0.40). In general, fistulotomy plus marsupialisation and surgical ligation plus biomaterial plugging revealed superior clinical efficacy. Node-splitting model testing revealed that no significant inconsistency existed in this research. Fistulotomy plus marsupialisation exhibited preliminary superior surgical utility for anal fistula.²⁴ The addition of marsupialisation to fistulotomy resulted in quicker wound healing when compared to fistulotomy alone, according to the study. With marsupialisation, the operating time increases. When weighed against the benefits of improved healing, this effect is negligible.²⁵

V. CONCLUSION

The present study documented the significant difference in the wound healing time, post-operative wound size, post-operative pain, wound infections, anal incontinence, recurrence and patient's satisfaction between fistulectomy and fistulotomy with marsupialisation. The fistulotomy with marsupialisation showed superior results with quicker healing, smaller wound size and shorter duration of post-operative wound discharge compared to the fistulectomy in managing the simple anal fistula.

VI. REFERENCES

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