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Comparative Study of Surgical Management of Low Fistula- In- Ano between Fistulotomy & Fistulectomy and Its Outcome

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Abstract
Aims and Objectives: *To evaluate and compare the outcomes of fistulectomy and fistulotomy in management of low fistula in ano.*
Material and Methods*: This prospective study was conducted in R.L Jalappa Hospital, Department of General surgery, Tamaka, Kolar from August 2016 to October 2017. This study included 75 patients of low fistula in ano admitted during the study period, out of these 38 patients underwent fistulotomy (group A) and 37 patients underwent fistulectomy (group B). The two techniques were compared in terms of post-operative pain, healing time, complication, hospital stay and recurrence.*
Result: *The average age of study group was 45 years with male preponderance. Post operative pain was for more days in group B (fistulectomy) patients as compared to group A(fistulotomy) patients.(Four) patients in group A (10.52%) had wound infection while 15 patients in group B (40.52%) had wound infection. Post-operative wounds in group A healed earlier in comparison to group B wounds. The mean hospital stay of group A was 2.86days , while for group B was 4.32 days. Anal incontinence was not noted in either of the groups. Recurrence developed in 2 patients out of 38 (5.3%) in fistulotomy group and 7 patients out of 37 (18.9%) in fistulectomy group.*
Conclusion: *Fistulotomy should be considered superior surgical procedure in the treatment of low lying fistula in Ano.*
Keywords: *Fistulectomy, Fistulotomy, Fistula-in-Ano.*

Introduction

A fistula-in-ano is a hollow tract lined with granulation tissue connecting a primary opening inside the anal canal or rectum to a secondary opening in the perianal skin. Secondary tracts may be multiple form the same primary opening. It is common surgical condition that is being treated by different surgical modalities.

Aims and Objectives

To compare and evaluate the outcome of fistulotomy and fistulectomy technique in treatment of low fistula in ano.

Material and Methods

This prospective study was conducted in R.L Jalappa Hospital, Department of General surgery, Tamaka, Kolar from August 2016 to October

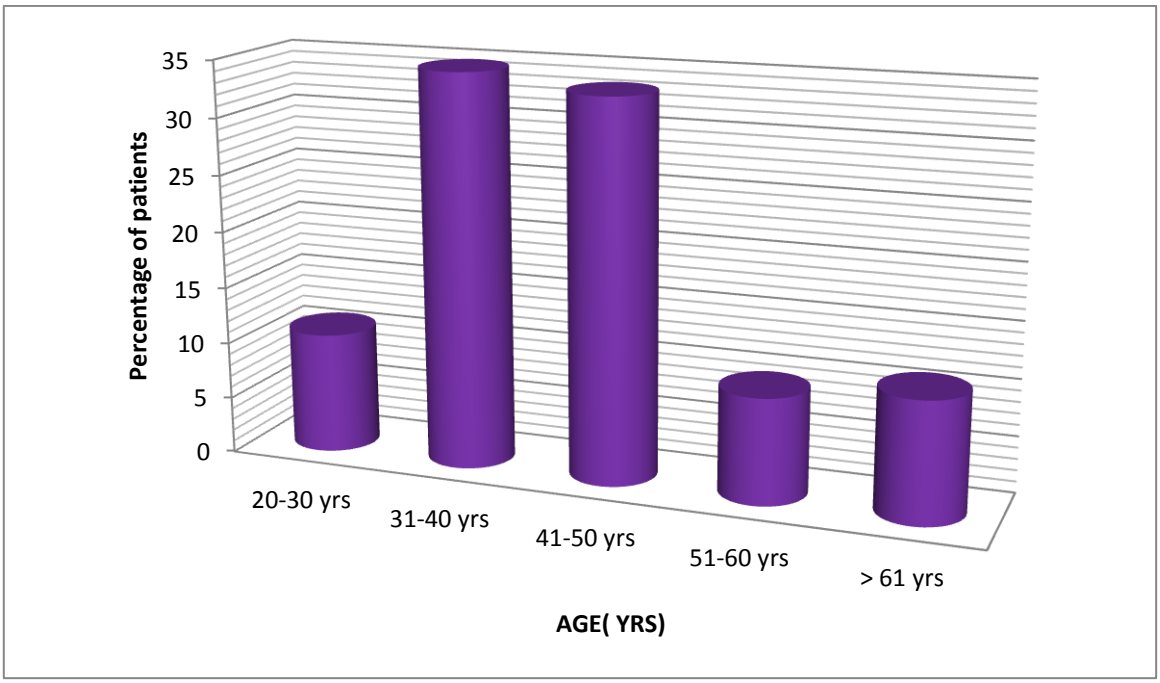
2017. This study included 75 patients of low fistula in ano admitted during the study period, out of these 38 patients underwent fistulotomy (group A) and 37 patients underwent fistulectomy (group B). All low anal fistulas with any age, any gender was included in our study, only high fistula, Anal or rectal carcinoma, patient received pelvic irradiated or severely sick patient were excluded. Written consents were obtained from all patients before the study. The steps of both operative interferences were explained to all patients. Cases were divided into two groups by simple random sampling by two different procedures. The two techniques were compared in terms of healing time, post operative pain, hospital stay, complication, recurrence and outcome.

Result

In the period of 1 year, the common age group affected by fistula in ano found to be 31 to 50 years. The youngest patient was 26 years of age and the oldest 75 years

Table 1: Showing Age Incidence

Age group (in years)	No. of cases	Percentage
20 to 30	8	10.67
31 to 40	27	36.00
41 to 50	25	33.33
51 to 60	7	9.33
Above 61	8	10.67
Total	75	100



Graph 1: Showing age incidence

Post operative pain was 2.16 ± 1.02 days for group A (fistulotomy) and 5.95 ± 3.00 days for group B (fistulectomy). The mean value of two groups are compared and as $p > 0.05$ the mean value of Group A is significantly low than that of Group B.

Table: 2 Post operation pain duration in various groups

Groups	Minimum duration of pain (days)	Maximum duration of pain (days)	mean duration of pain (days)	SD	T	P Value
Group A	2	6	2.16	1.02		
Group B	3	20	5.95	3.00	6.469	0.00

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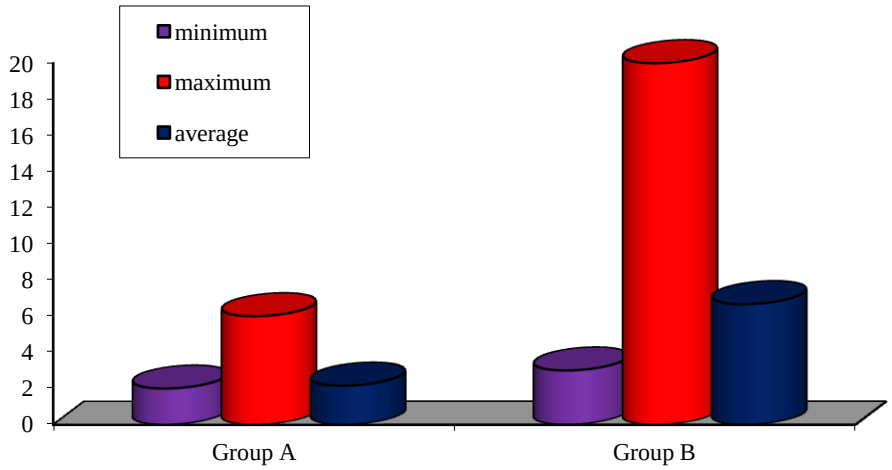


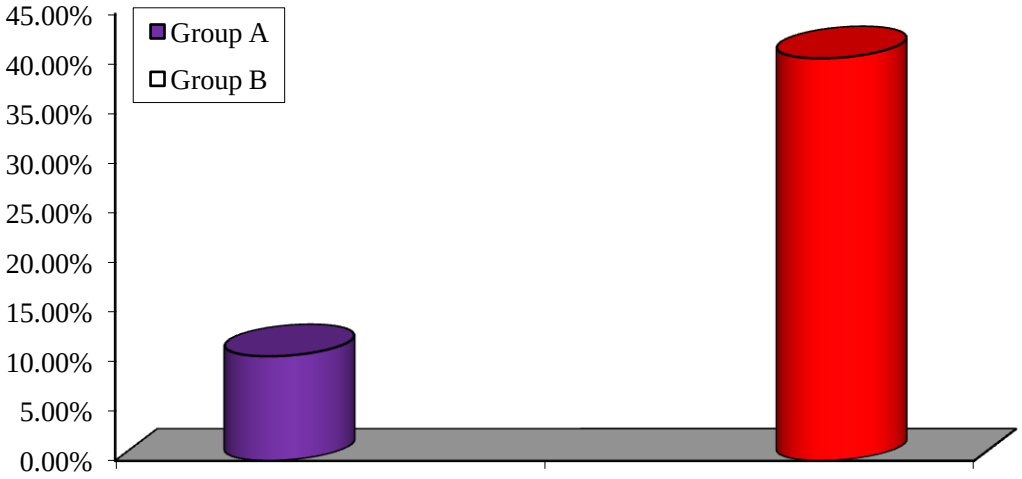
Graph no 2 : Showing post operative pain in various Groups.

4 (Four) patients of group A (10.52%) had wound infection while 15 patients of group B (40.52%) had wound infection.

Table 3: Post operative wound infection in various groups

Groups	Infection in patients	Total patients	Percentage	P value
Group A	4	38	10.52%	
Group B	15	37	40.52%	0.003

Chi square



Graph 3. Showing rate of wound infection in various group

Post operative wounds in group A healed earlier in comparision to group B wounds (28.55 ± 5.717 vs 48.54 ± 12.43 days, P = 0.0001).

Table 4: Post operative healing time of wound

Groups	Total patients	Minimum healing time (days)	Maximum healing time (days)	Mean healing time (days)	Sd	T	P value
Group A	38	21	42	28.55	5.717		
Group B	37	30	75	48.54	12.43	8.96	0.0001

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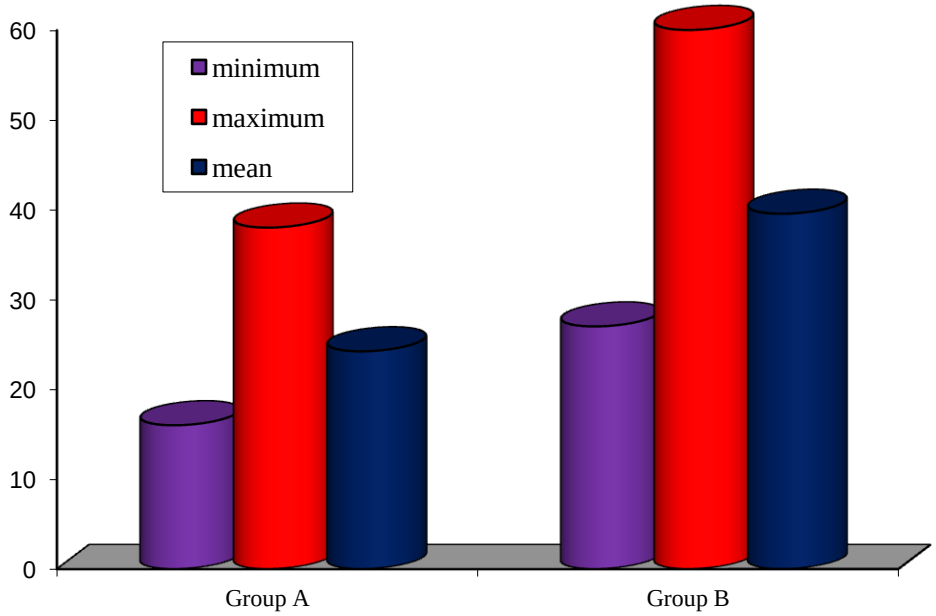

Graph 4: Showing healing time among various groups

The mean hospital stay of group A was 2.86 ± 1.78 days, while for group B was 4.32 ± 2.22 days. There is statistically significant difference in hospital stay in both groups (P value=0.03)

Table 5: Hospital stay after procedure in various groups

Groups	Minimum hospital stay	Maximum hospital stay	mean hospital stay (days)	SD	t	P value
Group A	1 days	9 days	2.86	1.78		
Group B	1 days	10 days	4.32	2.22	3.14	0.002

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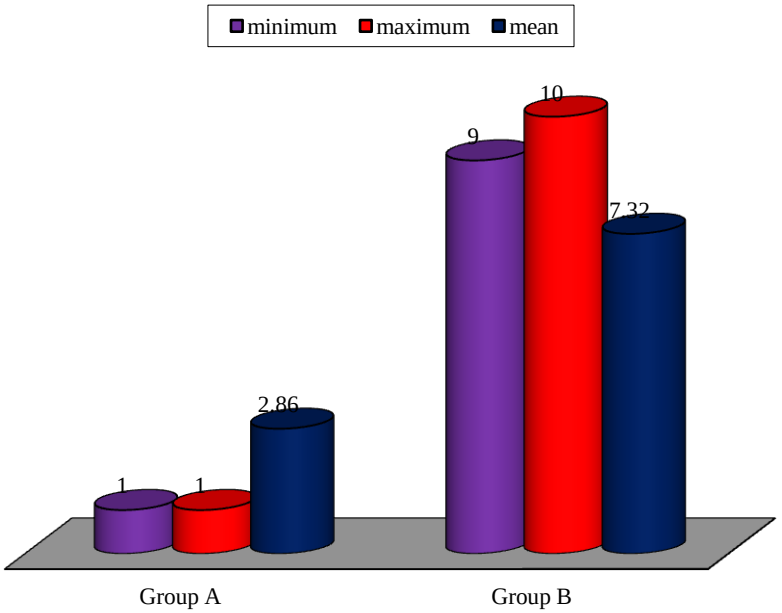
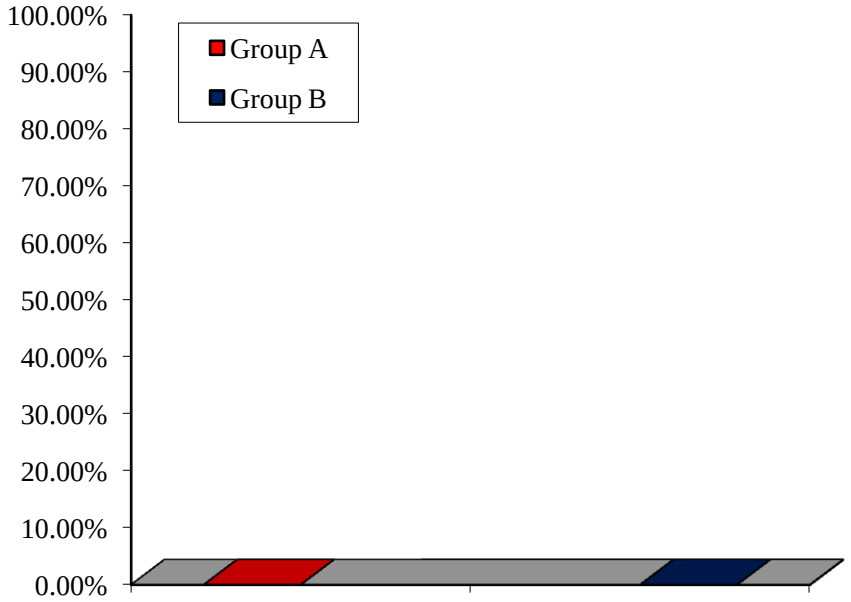


Graph 5: Showing postoperative hospital stay in studied groups.

No incidence of anal incontinence in both groups.

Table 6: Post operative anal incontinence among various groups

Groups	Incontinence in patients	Total patients	Percentage
Group A	0	38	0%
Group B	0	37	0%



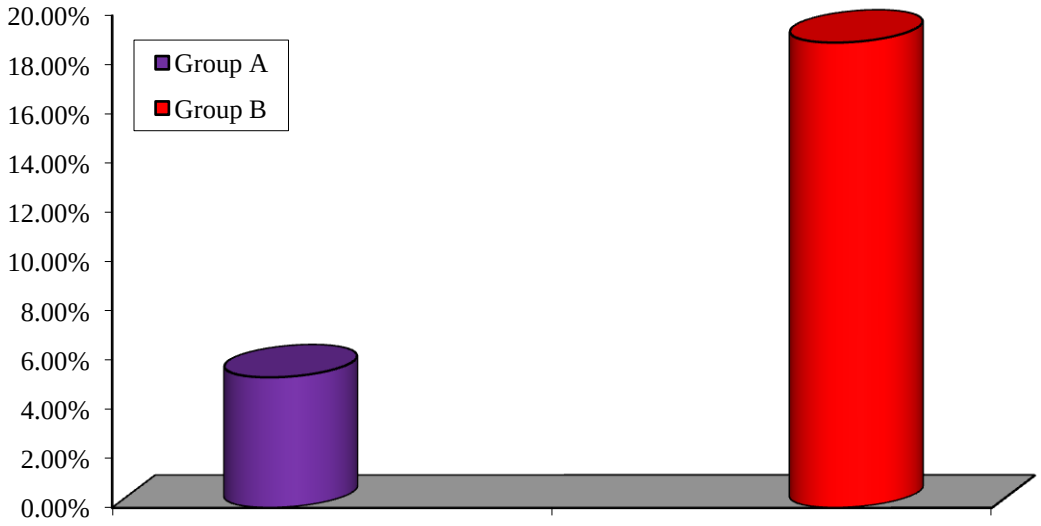
Graph 6: Showing rate of incontinence in various groups

Recurrence developed in 2 patients out of 38 (5.3%) of fistulotomy and 7 patients out of 37 (18.9%) following fistulectomy.

Table 7: Post operative recurrence in various groups

Groups	Recurrence in patients	Total patients	Percentage	P value
Group A	2	38	5.3%	
Group B	7	37	18.9%	0.069

Chi square



Graph 7: Showing rate of recurrence in various groups.

In group A, minimum time required is 6 days and maximum time required is 22 days, average time required is 10.55 days with mean 10.55±4.50 days.

In group B, minimum time required is 6 days and maximum time required is 90 days, average time required is 23.81 days with mean 23.81±21.46 days. It is statistically significant distribution (p value= 0.0004).

Table 8: Return to routine work after surgery in various groups

Groups	Total Patients (n)	Minimum duration (Days)	Maximum duration (Days)	Mean (Days)	SD	t	P
Group A	38	6	22	10.55	4.50	3.72	0.0004
Group B	37	6	90	23.81	21.46		

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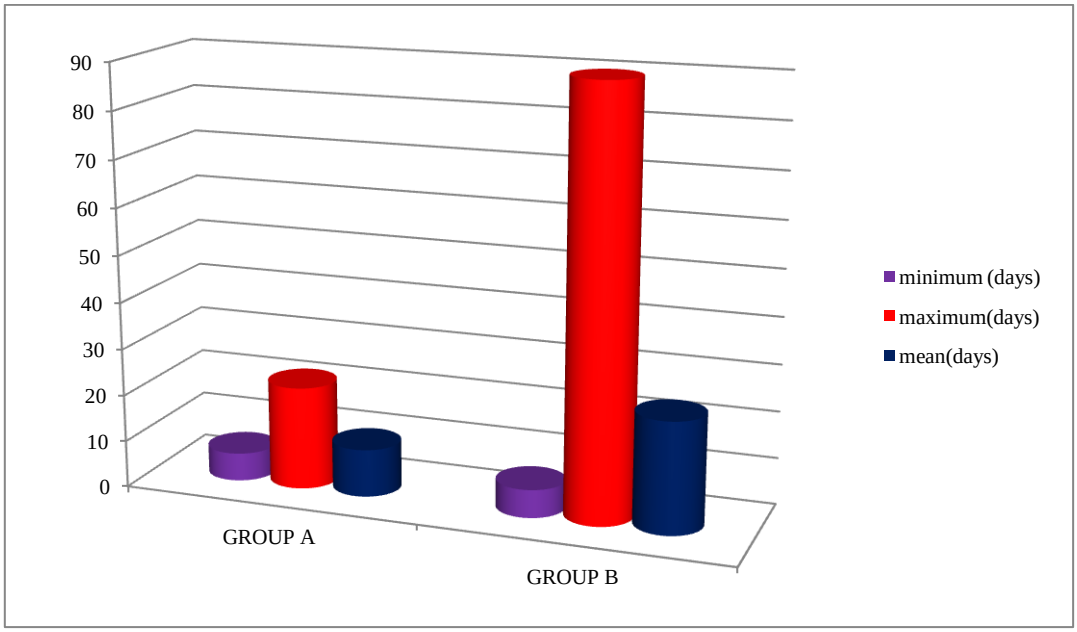

Graph 8: Showing days required for returning to normal work among various groups

Discussion

In our study, the most common age group affected by fistula in ano found to be 31 to 50 years which coincides with most of studies. In our study mean age in group A is 41.5±10.4years, while it is 45.2±12.3 years in group B. There was no significant difference between 2 groups with respect of age (p value= 0.168).Buie 1960in his study quotes 42 years as the average age for Fistula-in-ano, after a study of 5325 cases. Fifty percent of cases were between 30 and 50 years of age.

In our study, the disease was more prevalent in males. Group A (fistulotomy) consists of 31 male and 6 female whereas group B (fistulectomy) consists of 35 male and 3 females. Male to female ratio is 7.3: 1. There is no statistically significant difference in the gender distribution (P value =0.268). In our study 88% are males which coincides with most of studies. Gabriels (1937) observed the preponderance of males over females in cases of fistula-in-ano in the proportion of 3:1. In 1957, Lockhart Mummery agreed with this observation. Buie (in 1960) showed males to make 68.8% of cases of fistula-in-ano. Khurana et al (1972) observed that 91% of their patients were males.

In our study, post operative pain period of fistulotomy was significantly less than that of fistulectomy, with mean duration of 2.6±10.2 days for fistulotomy in comparison to mean duration of pain of 5.9±3.0 days after fistulectomy (P

value=0.00). Pain was categorized as mild, moderate and severe. In patients of fistulectomy around 70% patients had mild pain and 30% had moderate pain, while after fistulectomy around 60% patients had moderate pain and 40% had severe pain. All the patient after fistulotomy responded to simple analgesic like diclofenac sodium and that too is required for very short duration average of around 1 week. But many patients after fistulectomy required higher analgesics like tramadol that too for around 1 month, some.

In our study, wound infection is observed being significantly of shorter duration in fistulotomy group than in fistulectomy group (p value =0.003). Most common complication after surgery was wound infection, it is very low after fistulotomy, occurring in only 10.5% but in about 40.5% after fistulectomy.

Time taken for wound to heal is minimum in patients of fistulotomy, with average duration of 28.5 days with mean 28.5±5.7 days in comparison to average duration of 48.5days with mean 48.50±12.4 days after fistulectomy which is statistically significant distribution(p value= 0.0001). So more dressings were required, even after discharge in patients of fistulectomy. Kronborg who demonstrate a shorter healing times (34 days vs. 41 days) with fistulotomy compared to fistulectomy ($P < 0.02$) in 47 randomized patients. Removal of complete track and adjacent tissue in fistulectomy results in larger wound, thus there is more risk of postoperative bleeding and pain with longer healing time (Anwar I,2003).

Anal incontinence is not seen in any patient after both procedures fistulotomy and fistulectomy. All those patients were kept in close follow up. None of the patients in either group was found to have anal incontinence during a follow-up period. This observation is logical as all the internal openings were located in the lower anal canal in our patients. In agreement with other randomized clinical studies (Lindsey et al., 2002; Jain et al., 2012).

Recurrence is least common after fistulotomy, occurring in only 5.26% while it occurred in about 18.91% after fistulectomy method, recurrences occurred in all the patients after 1 month and mainly between 1-6 months. The proportion comparison of Recurrence in patient of two groups do show any significant difference between them ($p>0.05$). Kronborg reported that the recurrence rates following a fistulectomy and a fistulotomy were 9.52% and 12.5%, respectively, during a follow-up period of 12 months. Other study was conducted in North India between September 2008 through April 2010 on Forty patients with simple anal fistula, reported no case of recurrence and anal incontinence. (Jain et al)

Conclusion

Fistulotomy can be recommended as a standard surgical procedure in the treatment of low anal fistula for the merits of early wound healing, less post operative pain, lower rates of wound infection, early hospital discharge and lesser incidence of recurrence in comparison to that of fistulectomy.

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