

Hemorrhoidopexy: Rubber Band Ligation Versus Manual Hemorrhoidopexy in Treatment of Hemorrhoidal Disease

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Abstract

Many treatment options are now available for treating hemorrhoidal disease including: diet and life-style modification, medical treatment, office-based procedures, non-excisional surgery and conventional excisional surgery. Rubber band ligation is the most commonly used office-based procedure. Manual hemorrhoidopexy is a relatively novel technique for treating hemorrhoidal disease. It varies from hemorrhoidal course ligation procedure, as it includes ligation of hemorrhoidal vessels as well as plication and height with obsession of the prolapsing hemorrhoids. The point of the investigation is to contrast attractions elastic band ligation and manual hemorrhoidopexy in treatment of hemorrhoidal infection. This is a planned report included patients enrolled from the outpatient center of colorectal medical procedure unit, Benha University Hospital. The investigation incorporated an aggregate of 80 grown-up patients analyzed as second and third degree butt-centric hemorrhoidal infection. Patients were haphazardly (shut envelope technique) partitioned into two gatherings (An and B). Gathering (An) included 40 patients rewarded by elastic band ligation though Group (B) included 40 patients rewarded by manual hemorrhoidopexy (MH). Enrolment of qualified patients started on September 2013 and occurred till September 2017. Follow up was intended for two years length until September 2019. There was no measurably noteworthy contrast between the two gatherings as respect segment models, boss grumbling, length of indications, and level of hemorrhoids. There was a measurably critical distinction between the two gatherings as respect time of technique which was shorter in gathering (A). Additionally, seeping during the technique was less in gathering (A) with a measurably noteworthy contrast. A shorter emergency clinic remain and increasingly fast come back to work were seen in gathering (A) with a profoundly huge contrast. The VAS torment score was higher in gathering (B) with a critical distinction. Repetitive pace of hemorrhoidal ailment was altogether higher in patients with third degree heaps rewarded with elastic band ligation than those rewarded with manual hemorrhoidopexy. Elastic band ligation has better result primarily in second degree hemorrhoidal ailment while manual hemorrhoidopexy is related with less repeat rate in third degree hemorrhoidal illness.

Keywords: Hemorrhoids, Rubber band ligation, Manual hemorrhoidopexy.

1. Introduction

Hemorrhoidal malady is an extremely normal anorectal issue. It is characterized as the suggestive augmentation and unusually descending removal of butt-centric pads related with degenerative difference in steady tissue inside the butt-centric pads, vascular hyperplasia, and hyperperfusion of hemorrhoidal plexus [1].

It influences a great many individuals around the globe, and speaks to a significant clinical and financial issue. It is assessed that 5% of everyone and half of the people beyond 50 years old have grumblings identified with hemorrhoids [2].

The specific pathophysiology of hemorrhoidal advancement is inadequately comprehended. For quite a long time the hypothesis of varicose veins had been well known however now it is old since hemorrhoids and anorectal varices are demonstrated to be particular entities.³ The hypothesis of sliding butt-centric trench lining recommends that hemorrhoids create when the supporting tissues of the butt-centric pads break down or deteriorate.⁴Manu considers indicated that a few chemicals and go between as lattice metalloproteinases are associated with the debasement of supporting tissues in the butt-centric cushions.⁵An expanded microvascular thickness was found in the hemorrhoidal tissue, proposing that neovascularization may be another significant marvel of hemorrhoidal disease [6].

The most normally utilized evaluating framework for hemorrhoidal arrangement is the Goligher's order. In first-degree hemorrhoids (grade i), the butt-centric pads drain however don't prolapse. In second-degree hemorrhoids (grade ii), the butt-centric pads prolapse through the rear-end on stressing however diminish immediately. In third-degree hemorrhoids (grade iii), the butt-centric pads prolapse through the rear-end on stressing or effort and require manual substitution into the butt-centric channel. At long last, in fourth-degree hemorrhoids (grade iv), the prolapse remains out consistently and is irreducible [7]

Roughly, 4 out of 10 patients with hemorrhoids are indicative. It is dubious why hemorrhoids become indicative. They are accepted to begin delivering manifestations when butt-centric pads start their sliding down process [8].

Numerous treatment choices are currently accessible for rewarding hemorrhoidal sickness including: diet and way of life alteration, clinical treatment, office-based strategies, non-excisional medical procedure and regular excisional medical procedure. Hemorrhoidopexy is a non-excisional strategy which doesn't include extraction of the widened and prolapsed butt-centric pads, while hemorrhoidectomy is an excisional one [4].

Elastic band ligation (RBL) is the most regularly utilized office-based method, and is accounted for to be a protected and compelling treatment for suggestive

inward hemorrhoids of evaluations I, II and chose grade III, with a lower occurrence of complexities when contrasted with customary surgery [9].

Manual hemorrhoidopexy is a generally novel method for rewarding hemorrhoids. Rather than the traditional excisional procedures (Milligan-Morgan), manual hemorrhoidopexy doesn't include extraction yet plication with obsession of the prolapsing hemorrhoids [10].

2. Methodology

This is an imminent report that was acted in Department of General Surgery Faculty of Medicine, Benha University Hospital. This investigation included 80 grown-up patients with second and third degree hemorrhoids. Patients were haphazardly (shut envelope strategy) partitioned into two gatherings (An and B). Gathering (An) included 40 patients rewarded by elastic band ligation (RBL) while Group (B) included 40 patients rewarded by manual hemorrhoidopexy (MH). Enrolment of qualified patients started on September 2013 and occurred till September 2017. Follow up was intended for two years length. The members who partook in this clinical examination gave educated assent subsequent to being completely educated about the strategy and its conditions.

The last incorporation standard included patients with indicative second degree and third degree inside hemorrhoids.

Patients with first degree, fourth degree, entangled or repetitive interior hemorrhoids were rejected from this investigation. Patients with some other coinciding butt-centric pathology and those with mental clutters were likewise rejected from the investigation.

Preoperative estimates included; total history taking, total physical assessment including computerized rectal assessment and proctoscopy, research center examinations including hemoglobin, glucose, liver capacities, and kidney capacities, and colonoscopy or barium bowel purge in patients with suspected colonic pathology. All patients got douche readiness before medical procedure and got one portion of anti-infection 1 hour preceding medical procedure. The patients were told how to finish the 0 to 10 visual simple scale (VAS) meet for torment evaluation.

Postoperative estimates included; the utilization of absense of pain, either oral or infusion, at whatever point required, oral anti-microbial treatment for 3 days postoperatively, and perception for early inconveniences. Admission of fluid food was continued at night after the method and for 2 days, and afterward ordinary eating routine was proceeded. Patients were encouraged to utilize warm sitz showers after poop.

The recorded information included; time of the system, level of seeping during the method, the power of postoperative agony at 6, 12, and 24 hours after the technique by methods for a 0 to 10 visual simple scale, the requirement for absense of pain, postoperative confusions, time of medical clinic remain, and come back to ordinary movement. The patients of the two gatherings were assessed week after week for one month, when a month for a half year and afterward like clockwork for a long time at the outpatient facility. They were watched for repeat of side effects during the subsequent period and their requirement for ensuing treatment. So as to survey the patient fulfillment with treatment, a size of (1-10) was utilized with (1) speaking to the least fulfillment and (10) speaking to the most extreme fulfillment. No patients were lost during the subsequent period

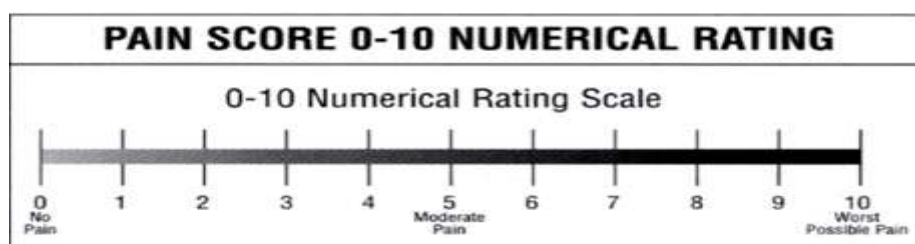


Fig (1) Visual analogue scale⁹

Surgical technique

Group A: The elastic band ligation methodology (Figures 2&3) was proceeded as an outpatient technique without sedation. The patients were situated in either lithotomy position or left parallel position. Complete butt-centric assessment was done to reject other ano-rectal pathologies. With the assistance of the introducer, two flexible elastic groups were embedded into the implement which was associated with the pull framework. Oneself enlightened anoscope was greased

up with Xylocaine 2% gel and brought into the butt-centric channel. Its zenith was set 1-2 cm. over the dentate line. The hemorrhoidal pad was permitted to prolapse into the degree and sucked into the elastic band tool. The implement weapon was discharged and the elastic groups were applied to the base of hemorrhoid. Treatment was offered in a solitary meeting, 2 meetings or 3 meetings as indicated by the patient's resilience and the level of end of the hemorrhoids after every meeting.



Fig (2) A disposable suction rubber band ligation set.

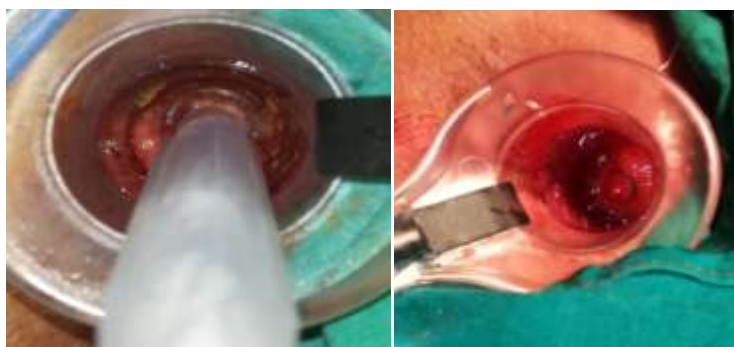


Fig (3) Rubber band in position

Group B: Manual hemorrhoidopexy procedure was performed under saddle or spinal anesthesia. The patients were positioned in lithotomy position. Complete anal examination was done to exclude other ano-rectal pathologies. The degree of mucosal prolapsed was evaluated by a gauze swab that was introduced into and removed from the anus. The peak anoscope was introduced. The engorged prolapsed hemorrhoidal cushion and the position of the dentate line were identified.

A Vicryl ® 2-0 stitch on half circle 26mm shape point needle was applied 3-4 cm over the dentate line. The main stitch nibble was taken profound enough to

under run the hemorrhoidal vessels and incorporate the mucosa, submucosa and a piece of the inward muscle layer. It was ligated to go about as a fixed beginning bunch. This stitch was proceeded as a running line for a further three or four join chomps ending over the dentate line. The terminal stitch end was ligated to the principal bunch to deliver a lifting of the prolapse and a repositioning of the dentate line up set up. The technique was applied to all prolapsed hemorrhoids primarily at 3, 7 and 11 O'clock in lithotomy position. A dressing swab was brought into and expelled from the butt to check whether the prolapse has been totally settle.



Fig (3) Manual hemorrhoidopexy.

Statistical methods

The clinical data were recorded on a report form. These data were tabulated and analyzed using the computer program SPSS (Statistical package for social science) version 20 (IBM, Armonk, New York, US) .

Descriptive data

-Mean and standard deviation (M ±SD) for quantitative data.

-Frequency and distribution (number and %) for qualitative data.

Analytical statistics

In the statistical comparison between the different groups, the significance of difference was tested using one of the following tests:

-Student's t-test and Mann-Whitney test: Used to compare mean of two groups of quantitative data of parametric and non-parametric respectively.

-Paired t test and Willcoxon test: Used to compare mean of variables in different time periods of quantitative data of parametric and non-parametric respectively.

-Inter-group comparison of categorical data was performed by using chi square test (X²-value) and fisher exact test (FET).

-Comparison between two proportions was done using Z test.

A P value <0.05 was considered statistically significant (*) while >0.05 statistically insignificant P value <0.01 was considered highly significant (**) in all analyses.

3. Results

The mean age in this study was 43.23 years in group (A) and 40.33 in MH group (B). Group (A) included 21 (52.5%) male patients and 19 (47.5%) female patients compared to 23 (57.5%) male patients and 17 (42.5%) female patients in group (B). There was no significant difference between both groups as regard the age and sex as shown in Table (1).

There was no significant difference between both groups as regard the clinical criteria of patients as shown in Table (2).

Table (1) Comparison according to age and sex.

Variable	Group A (40)	Group B (40)	Statistical test	P-value
Age(M ±SD)	43.23±10.61yrs.	40.33±10.7yrs.	t= 1.21	0.23 ns
Sex n (%)				
-Male	21(52.5%)	23(57.5%)	X ² = 0.20	0.65 ns
-Female	19(47.5%)	17(42.5%)		

Table (2) Clinical criteria in both groups.

Variable	Group A (40)	Group B (40)	Statistical test	P value	
Chief complaint					
-Anal bleeding	32 (80.0%)	27 (67.5%)	FET= 1.84	0.63	
-Prolapse	5 (12.5%)	7 (17.5%)			ns
-Peri-anal itching	1 (2.5%)	2 (5.0%)			
-Anal discomfort	2 (5.0%)	4 (10.0%)			
Duration of symptoms in months (mean ±SD)	10.5 ±8.57 months.	10.23 ±9.43 months.	Z= 0.40	0.69 ns	
Associated constipation					
None	9 (22.5%)	8 (20%)	FET= 0.24	1.0	
Mild	27 (67.5%)	27 (67.5%)			ns
Severe	4 (10%)	5 (12.5%)			
Degree of hemorrhoids					
2 nd degree	26 (65%)	25 (62.5%)	X ² = .054	0.816	
3 rd degree	14 (25%)	15 (37.5%)			ns

Time of the procedure was shorter in group (A) with a highly significant difference (P-value <0.001) as shown in table (3). It was 11.08 minutes in group (A) compared to 24 minutes in group (B).

All cases of group (B) received a single session of treatment. In group (A), 10 (25%) patients received a single session of treatment, 22 (55%) patients received two sessions of treatment, and 8 (20%) patients received

three sessions of treatment. There was a highly significant difference between both groups with a P-value <0.001 Table (3).

Mild bleeding occurred during the procedure in 5 (12.5%) cases of group (A) compared to 22 (55%) cases of group (B). The difference was highly significant with a P-value <0.001 Table (3).

The mean hospital stay in group (A) was 6.5 hours compared to 18 hours in group (B). The difference was highly significant with a P-value of <0.001. Return to normal activity occurred within 3.2 days in group (A) compared to 6.33 days in group (B). The difference was highly significant with a P-value <0.001 Table (4).

The visual analogue score was used for assessment of post-operative pain. The mean visual analogue score 6 hours after the procedure was 2.05 in group (A) compared to 2.78 in group (B). At 12 hours, it was 1.25

in group (A) compared to 1.58 in group (B). At 24 hours, it was 0.33 in group (A) compared to 1.15 in group (B). The difference was highly significant with a P-value <0.001 (table 5).

Oral analgesic was offered to 26 (65.0%) patients in group (A) compared to 35 (87.5%) patients in group (B). One (2.5%) patient in group (A) and 2 (5%) patients in group (B) were offered a single analgesic injection. The difference was statistically significant with a P-value <0.019 Table (5).

Table (3) Procedure time, number of sessions and bleeding during the procedure.

Variable	Group A (40)	Group B (40)	Statistical test	P value
Time of procedure in minutes (mean ±SD)	11.08 ±1.97 minutes	24 ±3.41 minutes	t=20.7	<0.001** HS
Number of sessions				
One	10 (25%)	40 (100%)	FET= 54.35	<0.001** HS
Two	22 (55%)	0 (0.0%)		
Three	8 (20%)	0 (0.0%)		
Bleeding during procedure				
None	35 (87.5%)	18 (45.0%)	X ² = 16.16	<0.001** HS
Mild	5 (12.5%)	22 (55.0%)		

Table (4) Hospital stay and Return to normal activity.

Variable	Group A (40)	Group B (40)	Statistical test	P value
Hospital stay in hours (mean ±SD)	6.5 ±1.5 hours	18 ±10.5 hours	t= 6.85	<0.001** HS
Return to normal activity in days(M±SD)	3.2 ±0.56 days	6.33 ±0.76 days	t=20.96	<0.001** HS

Table (5) Postoperative pain score and need for analgesia after the Procedure.

Variable	Group A (40)	Group B (40)	Statistical test	P value
Visual analogue score (M ±SD)				
At 6 hours	2.05 ±0.88	2.78 ±0.95	t=3.56	<0.001**HS
At 12 hours	1.25 ±0.23	1.58 ±0.36	t=4.88	<0.001**HS
At 24 hours	0.33 ±0.76	1.15 ±0.92	t= 4.79	<0.001**HS
Need for post-operative analgesia				
None	13 (32.5%)	3 (7.5%)	FET= 58.23	<0.019*S
Oral Injection	26 (65.0%)	35 (87.5%)		

As regard the post-operative complications, there was no significant difference between both groups as regard post-operative rectal bleeding, urinary retention, anal discharge and thrombosed hemorrhoids. Sense of incomplete defecation was present in 13 (32.5%) patients of group (A) compared to 29 (72.5%) patients

of group (B). The difference was highly significant with a P value <0.001. After 6 months, persistent skin tags were present in 15 (37.5%) patients of group (A) compared to 25 (62.5%) patients of group (B). This was statistically significant with a P value of 0.025 (table 6).

Table (6) Post-operative complications.

Variable	Group A (40)	Group B (40)	Statistical test	P value
Rectal bleeding (Mild)	7 (17.5%)	9 (22.5%)	FET= .313	0.57 NS
Urinary retention	0 (0.0%)	2 (5%)	FET= .493	0.15 NS
Anal discharge	9 (22.5%)	13 (32.5%)	X ² = 1.0	0.32 NS
Sense of incomplete defecation	13 (32.5%)	29 (72.5%)	X ² = 12.83	<0.001 ** HS
Thrombosed hemorrhoids	2 (5.0%)	1 (2.5%)	FET= 0.0	1.0NS
Persistent skin tags (after 6 months)	15 (37.5%)	25 (62.5%)	X ² =5.0	0.025*S

Patients with 2nd degree hemorrhoids

There was no significant difference between both groups as regard the effect of treatment on prolapse, bleeding and number of recurrent cases (who needed further intervention) Table (7).

Complete resolution of prolapse occurred in 92.4% of patients in group (A) compared to 96% of patients in group (B). Improvement occurred in 3.8% of patients in group (A) compared to 4% of patients in group (B). No change in the degree of prolapse occurred in 3.8% of patients in group (A) but did not occur in any patient in group (B).

Complete resolution of bleeding occurred in 96.2% of patients in group (A) compared to 96% of patients in group (B). Improvement occurred in 3.8% of patients in group (A) compared to 4% of patients in group (B). No patients in both groups showed complete failure in control of bleeding.

At the end of the follow up period, recurrence occurred in 11.5% of patients in group (A) compared to 8% of patients in group (B).

Table (7) Effect of treatment in patients with 2nd degree hemorrhoids.

Variable	Group A (26)	Group B (25)	Statistical test	P value
Effect on prolapse N (%)	24 (92.4%)	24 (96%)	X ² =0.980	0.612
Complete resolution	1 (3.8%)	1 (4%)		ns
Improvement	1(3.8%)	0 (0%)		
No change				
Effect on bleeding N (%)	25 (96.2%)	24 (96%)	X ² =.000	0.977
Complete resolution	1 (3.8 %)	1 (4%)		ns
Improvement	0 (0%)	0 (0%)		
No change				
Recurrent cases	3 (11.5%)	2 (8%)	Z=.424	0.674ns

Patients with 3rd degree hemorrhoids

The difference was significant between both groups as regard the effect of treatment on prolapse and number of recurrent cases (who needed further intervention) with P-values of 0.025 and 0.039 respectively Table (8).

Complete resolution of prolapse occurred in 57.1% of patients in group (A) compared to 91.7% of patients in group (B). Improvement occurred in 14.3% of patients in group (A) compared to 8.3% of patients in group (B). No change in the degree of prolapse (complete failure) occurred in 28.6% of patients in group (A) but did not occur in any patient in group (B).

Complete resolution of bleeding occurred in 71.4% of patients in group (A) compared to 86.7% of patients

in group (B). Improvement occurred in 14.3% of patients in group (A) compared to 13.3% of patients in group (B). No change in the amount and frequency of bleeding (complete failure) did not occur in any patient in group (B) but occurred in 14.3% of patients in group (A).

At the end of the follow up period, recurrence occurred in 42.9% of patients in group (A) compared to 20% of patients in group (B).

Recurrence (in all cases) occurred in 22.5% in group (A) compared to 12.5% of patients in group (B)(table 9). The mean patient satisfaction in group (A) was 6.48 compared to 7.23 in group (B).

Table (8) Effect of treatment in patients with 3rd degree hemorrhoids.

Variable	Group A (14)	Group B (15)	Statistical test	P value
Effect on prolapse N (%)				0.025* s
Complete resolution	8 (57.1%)	14 (91.7%)	X ² =7.30	
Improvement	2 (14.3%)	1 (8.3%)		
No change	4 (28.6%)	0 (0%)		
Effect on bleeding N (%)				30.7 ns
Complete resolution	10 (71.4%)	13 (86.7%)	X ² =2.35	
Improvement	2 (14.3%)	2 (13.3%)		
No change	2 (14.3%)	0 (0%)		
Recurrent cases	6 (42.9%)	3 (20 %)	Z=2.05	0.039*s

Table (9) Total recurrent cases and subsequent treatment.

Variable	Group A (40)	Group B (40)	Statistical test	P value
Total recurrent cases N (%)	9 (22.5%)	5 (12.5%)	Z=1.17	0.238ns

4. Discussion

This proposition is a planned report looking at elastic band ligation (RBL) with manual hemorrhoidopexy as two insignificantly obtrusive hemorrhoidopexy techniques in the executives of second and third hemorrhoids.

In the current investigation, the mean age of the patients was 43.23 years with no factually huge distinction between the two gatherings (P-esteem: 0.23). The investigation included 44 guys (55%) and 36 females (45%) with no factually huge distinction between the two gatherings (P-esteem: 0.65). These outcomes were in concurrence with those referenced by Thakkar 11 of every 2019. He referenced a mean period of 43.5 years and included 30 (57.6%) male patients and 22 (42.4%) female patients. 12 out of 2020 referenced a mean period of 43.4 years and a sexual orientation conveyance of 55% guys and 45% females. 13 in 2010 mentioned a mean time of 41 years and 40% of patients were guys and 60% were females.

In this investigation, butt-centric draining was the main grumbling in 73.75% of cases followed by prolapse in 15% of cases, butt-centric uneasiness in 7.5% of cases, and perianal tingling in 3.75% of cases. These figures are like those referenced by Aram 14 of every 2016 and 15 out of 2017, while Popov et al 16 in 2019 mentioned that prolapse was the central grievance in 80% of cases followed by butt-centric seeping in 20% of cases. This may indicate that draining is the trigger manifestation for patients in our general vicinity to look for clinical counsel.

In the work by 17 out of 2018, the mean term of manifestations was 11.2 months. 18 of every 2003 referenced a mean length of manifestations of 10.25 months. In this investigation, the span of side effects was 10.5 months in RBL gathering (A) contrasted with

10.23 months in MH gathering (B) with no critical distinction (P-esteem: 0.69).

The level of hemorrhoids was second degree in 63.8% of cases and 3rd degree in 36.2% of cases with no critical distinction (P-esteem: 0.79). 19 of every 2016 (TheHubBL Study) included 62.5% of patients with second degree and 37.5% with third degree hemorrhoids. Ali et al 20 out of 2010 included 65% of patients with second degree and 35% with third degree hemorrhoids.

Elastic band ligation was a quicker methodology than manual hemorrhoidopexy with an exceptionally huge contrast (P-esteem: <0.001). In RBL gathering (A), the interim of the strategy was 11.08 minutes. This is near the interims referenced by 21 out of 2018, 22 out of 2013, 23 out of 2012, who detailed mean usable occasions of 10.6, 10.8, and 11.2 separately. In MH gathering (B), the mean usable time was 24 minutes. These information ran as per the investigation by 10 of every 2013, who revealed a mean usable time of 25.2 minutes. 24 of every 2016 announced a mean usable time of 22.6 minutes. 25 out of 2013 detailed a mean employable time of 9 minutes. This distinction can be clarified by the early involvement in the new method.

Manual hemorrhoidopexy was offered as a solitary meeting treatment. While in RBL gathering (A), 25% of patients got a solitary meeting of treatment, 55% of patients got two meetings of treatment, and 20% of patients got three meetings of treatment. The thing that matters was exceptionally critical with a P-esteem <0.001. . 26 in his investigation of elastic band ligation in 2015 detailed that 28% of patients got a solitary meeting of treatment, half of patients got two meetings, and 22% of patients got three meetings. 27 out of 2003 detailed 27.5% of patients got a solitary meeting, 56.3% of patients got two meetings, and 14.1% of patients got three meetings of treatment. Nikam et al 28 in

2018 reported got a solitary meeting treatment in 48% of patients, two meetings in 34%, and three meetings in 18% of patients. The quantity of meetings contrasts as indicated by the patient's resistance, number of ligations and the level of end of the hemorrhoids after every meeting.

In the present investigation, seeping during the method was less in the RBL gathering (A) than that in the MH gathering (B). Mellow draining happened during the strategy in 5 (12.5%) instances of RBL gathering (A) contrasted with 22 (55%) instances of MH gathering (B). The thing that matters was exceptionally huge (P-esteem <0.001). 29 of every 2017 detailed gentle seeping in 15.6% of cases during the elastic band technique. Praveen et al 10 out of 2013 referenced the event of negligible seeping in 60% of cases during manual hemorrhoidopexy technique. The stitching in manual hemorrhoidopexy methodology might be the reason for this distinction.

The current examination indicated a shorter emergency clinic remain and an increasingly quick come back to ordinary movement in the RBL gathering (A) than those in the MH gathering (B) with an exceptionally huge contrast (P-esteem <0.001). The mean emergency clinic remain in RBL gathering (A) was 6.5 hours contrasted with 18 hours in MH gathering (B). The patients came back to their typical action inside 3.2 days in RBL gathering (A) contrasted with 6.33 days in MH gathering (B). 30 of every 2007 considered elastic band ligation in patients with suggestive hemorrhoids and announced a medical clinic remain of 6.2 hours and an arrival to typical action inside 4 days. While, 31 out of 2019 detailed an emergency clinic remain of 14 hours and an arrival to ordinary movement inside 3 days after elastic band ligation method. In an investigation of manual hemorrhoidopexy system, 32 of every 2017 announced a clinic remain of 24 hours and an arrival to typical action inside 7 days .

The current examination indicated a critical contrast between the two gatherings as respect the level of torment and the requirement for post-usable absence of pain (P-esteem <0.001) for RBL gathering (A). In the RBL gathering (A), the visual simple scores (VAS) were 2.05 at 6 hours, 1.25 at 12 hours, and 0.33 at 24 hours after the systems. Twenty six (65%) patients required a post-employable oral pain relieving and just 1 (2.5%) quiet required a post-usable infusion pain relieving. These outcomes ran as per those detailed by 33 out of 2006, who referenced a VAS of 2.4 at 6 hours, a VAS of 1.93 at 12 hours, and a VAS of 0.68 at 24 hours after the techniques. Likewise, 34 out of 2012 revealed a VAS of 2.08 6 hours after the methodology. 35 out of 2016 announced the requirement for a post-usable oral pain relieving in 65.5% of cases rewarded with elastic band ligation. 36 of every 2017 detailed the requirement for a post-employable oral pain relieving in 48.2% of cases rewarded with elastic band ligation. The situation of the elastic groups close to the dentate line

builds the postoperative agony and the requirement for absence of pain .

In the MH gathering (B), the visual simple scores (VAS) were 2.78 at 6 hours, 1.58 at 12 hours, and 1.15 at 24 hours after the strategies. A post-usable oral pain relieving was required in 87.5% of cases and 5% of cases required a post-employable infusion pain relieving. 25 of every 2013 referenced a VAS of 3 at 6 hours, a VAS of 2 at 12 hours, and a VAS of 1.5 at 24 hours after the methodology. He revealed the requirement for a post-usable oral pain relieving in 75% of cases and infusion pain relieving in 7.5% of cases rewarded with manual hemorrhoidopexy .

The present examination demonstrated a noteworthy distinction between the two gatherings as respect the feeling of deficient poo and the announcing of diligent skin labels which were fundamentally higher in the MH gathering (B) (P-values: <0.001 and 0.025 respectively). There was no critical contrast between the two gatherings as respect post-usable rectal dying (P-esteem: 0.57), urinary maintenance (P-esteem: 0.15), butt-centric release (P-esteem: 0.32), and thrombosed hemorrhoids (P-esteem: 1)

The post-employable difficulties in the RBL gathering (An) included: gentle post-usable rectal seeping in 17.5% of patients, butt-centric release in 22.5%, feeling of fragmented poop in 32.5%, thrombosed hemorrhoids in 5%, and diligent skin labels in 37.5% of patients. Pee maintenance and contamination didn't happen regardless in the RBL gathering (An) in our investigation. These outcomes run as per numerous examinations by 28 of every 2018 who revealed mellow post-employable rectal seeping in 16.6% of patients rewarded with elastic band ligation, 23 out of 2012 who announced mucous release in 18%, and apoplexy in 2.7% of cases rewarded with elastic band ligation and 37 out of 2011 who detailed tenesmus in 23.3% of cases rewarded with elastic band ligation .

The post-usable difficulties in the MH gathering (B) included: gentle post-employable rectal seeping in 22.5% of patients, pee maintenance in 5%, butt-centric release in 32.5%, feeling of fragmented poo in 72.5%, thrombosed hemorrhoids in 2.5%, and constant skin labels in 62.5% of patients. Disease didn't happen regardless in the MH gathering (B) in this investigation. 24 of every 2016 revealed gentle post-employable rectal seeping in 24% of patients and pee maintenance in 7% of patients. 38 of every 2008 announced feeling of fragmented poop in 67.5% of instances of patients. Tagariello³⁹ in 2011 announced the nearness of tenacious skin labels much of the time rewarded with manual hemorrhoidopexy methodology. Patients ought to be noted about the post-employable feeling of fragmented poop and the high chance of the nearness of skin labels after manual hemorrhoidopexy system .

The impact of treatment on prolapse, draining and number of repetitive cases (who required further mediation) was diverse as per the underlying level of hemorrhoids. In patients with second degree hemorrhoids, there was no critical contrast between the

two gatherings. Be that as it may, in patients with third degree hemorrhoids, there was critical contrast between the two gatherings as respect the impact on prolapse and number of repetitive cases (P-values: 0.025 and 0.039 separately).

In the RBL gathering (A), patients with second degree hemorrhoids demonstrated total goals of prolapse in 92.4%, improvement in 3.8% and complete disappointment in 3.8% of patients. Complete goals of draining happened in 96.2% and improvement in 3.8% of patients. Repeat happened in 11.5% of patients .

This ran as per 36 out of 2017 who detailed total goals of prolapse in 90%, improvement in the level of prolapse in 6% and no change in 4% of patients with second degree hemorrhoids. He additionally announced full oversight of seeping in 95% of patients with second degree hemorrhoids. 11 out of 2019 detailed total goals of prolapse in 88% of patients, improvement in 6% of patients and no change in 6% of patients with second degree hemorrhoids. Then again in 2013 revealed total goals of prolapse in 77%, improvement in 16% and no change in 6% of patients with second degree hemorrhoids following a half year follow up period. Be that as it may, Nasir et al 41 out of 2017 detailed total goals of prolapse in 75%, improvement in 20% and no change in 5% of patients with second degree hemorrhoids at the fifteenth postoperative day. This might be ascribed to the distinctions in the subsequent periods and the quantity of meetings of treatment .

In the MH gathering (B), patients with second degree hemorrhoids indicated total goals of prolapse in 96% and improvement in 4% of patients. Complete goals of draining happened in 96% and improvement in 4% of patients. Repeat happened in 8% of patients. These discoveries are near those referenced by 32 out of 2017 who announced goals of prolapse in 96.88% and goals of seeping in of patients with second degree hemorrhoids. 42 of every 2018 revealed goals of prolapse and seeping in 95% of patients with second degree hemorrhoids .

In RBL gathering (A), patients with third degree hemorrhoids demonstrated total goals of prolapse in 57.1%, improvement in 14.3% and complete disappointment in 28.6% of patients. Complete goals of draining happened in 71.4%, improvement in 14.3% and no change in 14.3% of patients. Repeat happened in 42.9% of patients. These discoveries ran as per those referenced by 11 of every 2019 who detailed total goals of prolapse in 58%, improvement in 28% and no change in 14% of patients. He likewise detailed total goals of draining happened in 70% of patients, improvement in 20% and no change in 10% of patients with third degree hemorrhoids. 40 out of 2013 revealed total goals of prolapse in half, improvement in 21% and no change in 28% of patients with third degree hemorrhoids. The two investigations suggested that elastic band ligation isn't appropriate for rewarding enormous prolapsing hemorrhoids .

In the MH gathering (B), patients with third degree hemorrhoids indicated total goals of prolapse in 91.7%

and improvement in 8.3% of patients. Complete goals of draining happened in 86.7% of patients and improvement in 13.3% of patients. Repeat happened in 20% of patients. 39 out of 2011 announced total goals of prolapse in 91% and improvement in 8% of patients. He likewise announced total goals of draining happened in 91.8% of patients and improvement in 8.2% of patients with third degree hemorrhoids. 24 out of 2016 detailed total goals of prolapse in 93% and improvement in 7% of patients. He additionally announced total goals of draining happened in 90% of patients and improvement in 10% of patients with third degree hemorrhoids. 43 out of 2014 detailed total goals of prolapse in 93% and improvement in 7% of patients. He likewise detailed total goals of draining happened in 94% of patients and improvement in 6% of patients with third degree hemorrhoids .

While considering insignificantly intrusive hemorrhoidopexy strategies for overseeing progressed hemorrhoidal sickness, Stapled Hemorrhoidopexy (SH) stays a protected and solid choice for patients with chiefly third and fourth degree hemorrhoids [44]. SH has the upsides of hemorrhoidopexy methods with respect to decreased postoperative agony, shorter emergency clinic remain, and early come back to work, however this must be adjusted to the greater expense of the technique and the conceivable, regardless of whether uncommon, genuine complications [45]. Contrasted and different strategies, SH likewise has the potential for the most grim entanglements, including staple line dying, anastomotic breakdown, rectal aperture, and pelvic sepsis [45]. Likewise, SH has been related with some special confusions including recto-vaginal fistula, injury at the staple line, and crippling diligent agony related with a rectal disorder 46. Patient ought to be advised about the above inconveniences [47].

5. Conclusion

We conclude that in patients with 2nd degree hemorrhoidal disease; both rubber band ligation (RBL) and manual hemorrhoidopexy have comparable outcomes in terms of control of symptoms and rate of recurrence. However, RBL has the advantage of being an out-patient procedure that does not require anesthesia, while manual hemorrhoidopexy requires spinal or general anesthesia. Also, RBL has a shorter hospital stay, a more rapid return to normal activity and lower complication rates and pain scores. However, RBL may require multiple sessions of treatment.

On the other hand, in managing patients with 3rd degree hemorrhoids, manual hemorrhoidopexy is more effective than rubber band ligation because it offers a much better control of prolapse and a lower rate of recurrence. RBL provides a poor control of prolapse and hence a high recurrence rate in large prolapsing hemorrhoids.

This study recommends RBL to be used as the 1st line treatment for patients with 2nd degree hemorrhoids and some selected cases with 3rd degree hemorrhoids without marked prolapse.

This study also recommends manual hemorrhoidopexy to be implemented as a safe and effective minimally invasive procedure with reduced post-operative pain and complication rate for treating large prolapsing 3rd degree hemorrhoids.

From our point of view from this study, manual hemorrhoidopexy can be combined to hemorrhoidectomy in treatment of large prolapsed circumferential hemorrhoids, to avoid anal stenosis and to reduce the post-operative pain.

There are some limitations in this work. This study is an open label; Hospital based; single center study with a small sample size. Further studies evaluating those procedures, and overcoming the above limitations are highly recommended.

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