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A Comprarative Study of Rubber Band Ligation Versus Open Excisional Haemorrhoidectomy in Treatment of Second Degree Haemorrhoids

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KEYWORDS
Haemorrhoidectomy , Haemorrhoids, Rubber and Ligation.

ABSTRACT
Introduction: Hemorrhoids have been documented in medical literature going back thousands of years. The oldest known record is from an Egyptian papyrus from 1700 BC, which dates to about 2250 BC. Hippocrates records the first surgical excision, which took place in 460 BC, in his Hippocratic treatises.
Aims: to assess the variations in death and morbidity between rubber band ligation and open excisional hemorrhoidectomy for second-degree hemorrhoids.
Materials and method: Patients with second degree hemorrhoid presenting at the Department of Surgery (both OPD and emergency), CNMCAH. Approximately 100 in number (50 for each group) 5. Sample design: Non-randomized divided into two groups.
Result: In our study, 82 patients had at least one co-morbidity: 4 (22.22%) had DM, 4 (22.22%) had COPD, 6 (33.33%) had HTN, 1 (5.56%) had IHD, 1 (5.56%) had Palor, and two (11.11%) had PREG.
Conclusion: In treating second-degree hemorrhoids, our research indicates that rubber band ligation has certain advantages over open excisional hemorrhoidectomy.

INTRODUCTION

Hemorrhoids have been documented in medical literature going back thousands of years. The oldest known record is from an Egyptian papyrus from 1700 BC, which dates to about 2250 BC. Hippocrates records the first surgical excision, which took place in 460 BC, in his Hippocratic treatises.The word hemorrhoid comes from the ancient Greek word haema, which means "blood and rhoos flowing." The French emperor Napoleon Bonaparte supposedly had hemorrhoids, as the Code of King Hammurabi in Babylon states. Initially, hemorrhoids were the topic. During the Battle of Waterloo, Napoleon had trouble getting on his horse and spent most of the time in bed. His legs were spread wide when he moved, and it was noted that he had difficulty walking. Historians surmise that he lost the battle as a result of his "crise hemorrhoidale" and bad behavior on the battlefield. Hemorrhoids are among the most common anorectal conditions and among the most common referrals to the general surgical clinic, although their true prevalence is largely unknown. Hemorrhoids originate from the anal cushions that are naturally found in the lower rectum. The anorectal vascular cushions and the internal anal sphincter are essential for maintaining continence because they support soft tissues and keep the anal canal closed. Hemorrhoids are believed to occur when the vascular cushions shift downward due to the tearing of the supporting suspensory (Treitz) muscle.[1]. The terms "3, 7,

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and 11 o'clock" are commonly used to describe three different positions for cushions. [2]. They are derived embryonically from the rectal mucosal and submucosal folds and receive their blood supply from the haemorrhoidal arteries, which are branches of the superior rectal arteries. One could contend that one of the typical effects of aging is the development of hemorrhoids from the anal cushions. Hemorrhoidal symptoms can be brought on by a number of factors, including a diet low in fiber and extended straining. hard stools, constipation, and diarrhea. There is evidence that the physiology of the anorectum is changed when hemorrhoids develop. Unusually high anal resting and squeezing pressures have been associated with piles [3]. Additionally, therapeutic strategies could change physiological parameters [4]. Our understanding of when and how these changes occur is lacking.

RESULT AND ANALYSIS

Table 1: Age wise distribution of the study subjects (n=100)

Age group(years)	No of cases	Percentage
10-20	2	2
21-30	9	9
31-40	16	16
41-50	29	29
51-60	21	21
61-70	18	18
71-80	5	5
Total	**100**	**100**

Table 2: Sex wise distribution of the study subjects

Sex	No of cases	Percentage
Male	74	74
Female	26	26
Total	100	100

Table 3: Distribution of number of hemorrhoid

No of second degree hemorrhoid	No of cases	Percentage
1	65	65
2	15	15
3	20	20
Total	100	100

Table 4: Distribution of position of hemorrhoid

Position of Hemorrhoid (O'clock)	No of cases	Percentage
3	40	40
7	6	6
11	19	19
3,11	13	13
7,11	2	2
3,7	0	0
3,7,11	20	20
Total	100	100

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Table 5: Presenting Features

Presenting Symptoms	No of cases	Percentage
Bleeding	100	100
Something coming out P/R	100	100
Irritation	20	20
Fullness	10	10
Wiping	4	4

Table 6: Associated Co-Morbidities

Comorbidity	No of cases	Percentage
Present	18	18
Absent	82	82
Total	100	100

Table 7: Distribution of Co-Morbid diseases in patients

Comorbidity	No of cases	Percentage
COPD	4	22.22
DM	4	22.22
HTN	6	33.33
IHD	1	5.56
Palor	1	5.56
PREG	2	11.11
Total	18-Jan	100

Table 8: Type of anesthesia

Type of anesthesia	No of cases	Percentage
LJ	50	50
SA	2	2
Saddle	48	48
Total	100	100

Table 9: Type of operation

Type of Operation	No of cases	Percentage
RBL	50	50
OHE	50	50
Total	100	100

Table 10: Mean operating time

Type of operation	Mean time±SD
RBL	5.76±2.095
OHE	32.64±5.375
Total	19.2±14.10

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Table 11: Distribution of post-operative complications in RBL

Post-operative complications	No of cases	Percentage
Post OP pain	24	48
Post OP Bleeding	2	4
Wound infection	1	2
Faecal Incontinence	0	0
Anal stenosis	0	0
Urinary retention	0	0
Total	50	100

Table 12: Distribution of post-operative complications in OHE

Post-operative complications	No of cases	Percentage
Post OP pain	50	100
Post OP Bleeding	8	16
Wound infection	6	12
Faecal Incontinence	1	2
Anal stenosis	4	8
Urinary retention	4	8
Total no. of OHE	50	100

Table13: Presence of postoperative pain

Post-operative pain	RBL	OEH
Yes	24	50
No	26	0
Total	50	50

Table14: Distribution of post-operative pain

Distribution of post-operative pain	RBL	OEH
No	26	0
Mild	20	32
Moderate	4	12
Severe	0	6
Total	50	50

Table 15: Distribution of wound infection

	Complication	RBL	OHE
Wound infection	**Wound infection**	1	6
	No infection	49	44
	Total	50	50

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Table 16: Distribution of Complication

Wound infection	**Complication**	**RBL**	**OHE**	**p-value 0.0002**
	Wound infection	1	6	
	No infection	49	44	
	Total	50	50	
Post-operative bleeding	**Post-operative bleeding**	2	8	**p-value 0.045**
	No bleeding	48	42	
	Total	50	50	
Faecal Incontinence	**Faecal Incontinence**	0	1	**p-value 0.3149**
	No Incontinence	50	49	
	Total	50	50	
Anal stenosis	**Anal stenosis**	0	4	**p-value 0.0412**
	No stenosis	50	46	
	Total	50	50	
Urinary Retention	**Urinary Retention**	0	4	**p-value 0.0412**
	No Retention	50	46	
	Total	50	50	

Table 17: Distribution of recurrence

Recurrence	**RBL**	**OHE**	
Yes	8	2	**p-value 0.0455**
No	42	48	
Total	50	50	

Table 18: Mean duration of hospital stay after operation

Type of operation	**Mean duration of hospital stay after operation**	
OHE	8.32±2.236	**p-value <0.0001**
RBL	1.50±0.9313	
Total	4.91±3.827	

Table 19: Mean time until return to work after operation

Type of operation	**Mean time until return to work, after operation**	
RBL	3.15+2.618	**p-value <0.0001**
OHE	5.62+42.477	
TOTAL	4.15+2.779	

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Table 20: Summary of comparison of results between two methods

	Parameters	RBL	OHE	p-value
Post-operative complication	**Mean operating time**	5.76±2.095	32.64±5.375	<0.0001
	Post OP pain	48%	100%	<0.0001
	Post OP Bleeding	4%	16%	0.0455
	Wound infection	2%	12%	0.0002
	fecal Incontinence	0%	2%	0.3149
	anal stenosis	0%	8%	0.0412
	urinary retention	0%	8%	0.0412
	Recurrence	16%	4%	0.0455
	Mean hospital stay after operation	1.5±0.9313	8.32±2.236	<0.0001
	Time until return to work after operation	3.15±2.618	5.62±2.477	<0.0001

2 (2.0%) of the patients in our study were between the ages of 10 and 20, 9 (9.0%) were between the ages of 21 and 30, 16 (16.0%) were between the ages of 31 and 40, 29 (29.0%) were between the ages of 41 and 50, 21 (21.0%) were between the ages of 51 and 60, 18 (18.0%) were between the ages of 61 and 70, and 5 (5.0%) were between the ages of 71 and 80.There were 26 (26.0%) female patients and 74 (74.0%) male patients in our study. 65 (65.0%) of the patients in our study had a 1 degree hemorrhage, 15 (15.0%) had a 2 degree hemorrhage, and 20 (20.0%) had a 3 degree hemorrhage. The results of our study show that 40 (40.0%) of the patients had hemorrhoids at 3 (O'clock), 6 (6.0%) had hemorrhoids at 7 (O'clock), 19 (19.0 %) had hemorrhoids at 11 (O'clock), 13 (13.0 %) had hemorrhoids at 3,11 (O'Clock), 2 (2.0 %) had hemorrhoids at 7,11 (O'Clock), and 20 (20.0 %) had hemorrhoids at 3,7,11 (O'Clock).Within our study, 100 (100.0%) of the patients had bleeding, 100 (100.0%) had something coming out of their P/R, 20 (20.0%) had irritation, 10 (10.0%) had fullness, and 4 (4.0%) had wiping. Comorbidity affected 18 (18.0%) of the patients in our study. Four patients—four (22.22%) with COPD, four (22.22%) with DM, six (33.33%) with HTN, one (5.56%) with IHD, one (5.56%) with palor, and two (11.11%) with PREG were included in our study. 50 (50.0%) of the patients in our study received LJ anesthesia, 2 (2.0%) received SA anesthesia, and 48 (48.0%) received Saddle anesthesia.

50 (50.0%) of the patients in our study underwent RBL type operations, and 50 (50.0%) underwent OHE type operations. The mean operating time (mean± standard deviation) for the patients in the RBL group was 5.76± 2.095. The mean operating time (mean± standard deviation) for the patients in the OHE group was 32.64± 5.375. In our study, 2 (4.0%) patients experienced post-operative bleeding, 1 (2.0%) patient had a wound infection, and 24 (48.0%) patients experienced post-operative pain. 50 (100.0%) of the patients in our study experienced post-operative pain; 8 (16.0%) experienced post-operative bleeding; 6 (12.0%) experienced wound infection; 1 (2.0%) experienced faecal incontinence; 4 (8.0%) experienced anal stenosis; and 4 (8.0%) experienced urinary retention. 24 patients in RBL experienced post-operative pain. 50 patients in OEH experienced post-operative pain. 20 patients in RBL had mild postoperative pain, and four had moderate postoperative pain. Twelve patients in OEH had moderate postoperative pain, six had severe postoperative pain, and 32 had mild postoperative pain. One patient had a wound infection in RBL. Six patients at OEH had wound infections.

Wound infection

1 patient had a wound infection in RBL. 6 patients at OEH had wound infections. There was a statistically significant correlation between wound infection and complications (p=0.0002).

Post-operative bleeding

2 patients in RBL experienced post-operative bleeding. 8 patients in OEH experienced post-operative bleeding. There was a statistically significant correlation between post-operative bleeding and complications (p=0.045).

Faecal Incontinence

1 patient at OEH had faecal incontinence. There was no statistically significant correlation between faecal incontinence and complications (p=0.3149).

Anal stenosis

4 patients at OEH had anal stenosis. There was a statistically significant correlation (p=0.0412) between anal stenosis and complications.

Urinary Retention

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4 patients at OEH had urinary retention. Urinary retention and complications had a statistically significant relationship (p=0.0412). 8 patients had recurrences in RBL. 2 patients in OEH had recurrences. Recurrence and Group Had a Statistically Significant Association (p=0.0455). Within the RBL cohort, the average length of hospital stay following surgery (mean± standard deviation) for patients was 8.32± 2.236 days. Within the OHE cohort, the average length of hospital stay following surgery (mean± standard deviation) for patients was 1.50± 0.9313.

Mean distribution After the group operation, the mean length of hospital stay was statistically significant (p<0.0001).The mean (mean± standard deviation) time for patients in the RBL group to return to work following surgery was 3.15± 2.618. The mean (mean± standard deviation) time for patients in the OHE group to return to work following surgery was 5.62± 42.477. The mean distribution of the time it took to return to work following the group operation was statistically significant (p<0.0001).The mean operating time (mean± standard deviation) for patients in RBL was 5.76±2.095. The mean operating time (mean± standard deviation) for patients in OHE was 32.64±5.375. The mean operating time distribution using the methods was statistically significant (p<0.0001). Compared to 48% of patients treated with RBL, 100% of patients undergoing OHE reported having pain following surgery. This indicates a significantly higher incidence of post-operative pain. The significantly more painful recovery phase of OHE is highlighted by this statistically significant difference (p-value <0.0001). Our data also point to a higher rate of complications with OHE in relation to post-operative bleeding. Here, bleeding was reported by 16% of OHE patients compared to 4% of those receiving RBL treatment, resulting in a statistically significant p-value of 0.0455. This emphasizes how the more invasive OHE procedure carries a higher risk of bleeding. Another major issue was wound infections, which occurred in 12% of OHE cases compared to a minimum of 2% in RBL treatments. The nature of the open surgical wound in comparison to the less invasive RBL procedure is probably the reason for the significant p-value of 0.0002 in this particular context, which indicates higher infection risks with OHE.Urinary retention and fecal incontinence were of particular concern because of their significant effects on quality of life. Urinary retention and anal stenosis were significantly more common in patients receiving OHE treatment, with rates of 8% versus 0% in the RBL group, whereas there was no significant difference observed in fecal incontinence between the two groups (p-value = 0.3149). The more crippling post-operative complications linked to OHE are indicated by the p-values of 0.0412 for both conditions.Compared to a lower 4% recurrence in the OHE group, recurrence rates were significantly higher in the RBL-treated group at 16%. This result is noteworthy with a p-value of 0.0455.The mean hospital stay following surgery (mean± standard deviation) for patients in RBL was 1.5±0.9313.The mean hospital stay following surgery (mean± standard deviation) for patients in OHE was 8.32±2.236. The mean hospital stay distribution following the procedure was statistically significant (p<0.0001).The mean (mean± standard deviation) time for patients in RBL to return to work following surgery was 3.15±2.618. In OHE, patients' mean time (mean± standard deviation) until returning to work following surgery was 5.62±2.477.The mean Time until return to work distribution following the methods operation was statistically significant (p<0.0001).

MATERIALS AND METHODS

1. Study Area: Department of Surgery Calcutta National Medical College & Hospital, Kolkata

2. Study populations: patients with second degree hemorrhoid presenting at the Department of Surgery (both OPD and emergency), CNMCAH.

3. Study period: May 2012 to 2013

4. Sample size: Approximately 100 in number (50 for each group) 5. Sample design: Non-randomized divided into two groups.

6. Study design: Descriptive observational study

7. Study tools:

A suitable proforma mentioning

a. Demographic data (Name, age, sex, address, contact number, occupation)

b. Detailed history (Presenting complaints, presence of co-morbid diseases, treatment history, history of previous operation, history of any previous interventions made to relief constipation)

c. Clinical examination finding (prolapse, reduction methods)

d. PR examination and Proctoscopy

e. Investigation reports (Blood-complete hemogram, BT, CT, sugar- fasting and PP, urea, creatinine, chest x-ray PA view, BCG in all leads, USG-whole abdomen, Colonoscopy if needed)

f. Correction of Hb level and blood transfusion if needed

g. Operative notes (anaesthesia technique used, date & time, surgeon's note, time required, any adverse effect, pre-operative diagnosis, requirement of blood)

h. Early post-operative evaluation data within 7 days and 30 days (complete blood count, fever, and wound infection, bowel and bladder habit)

i Follow-up - Recurrences

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j. Any mortality

8. Study techniques:

a. All patients with clinical diagnosis of second degree haemorrhoids regardless of number, size and position of haemorrhoids attending surgical OPD and emergency Department of Calcutta National Medical College and Hospital during the study period are included.

Exclusion Criteria:

• Patients with other degree of haemorrhoids

• Patients with recurrent haemorrhoids

- Patients with external haemorrhoids
- Patients with any malignant changes of anal canal
- Patients with any associated bowel diseases
- Patients with strangulated or thrombosed or gangrenous piles

Patients are included in one of the two groups (A or B) consecutively. Surgeon decide the type of surgery and no preference criteria is employed for method used. Each group will consist of 50 patients (total 100)

c. Detailed history taking and clinical examination is done

d. Resuscitation with intravenous fluid, blood in emergency patients

e. Radiological examination is done for exclusion and inclusion of cases and for fitness of anaesthesia

f. Basic laboratory tests is done (Blood - Hb%, TC, DC, ESR, sugar, urea, and creatinine)

g. Group A-undergone Rubber band ligation without any anaesthesia, only lignocaine jelly application

• Positioning

1. The patient is laid down on the left side, with knees drawn up and buttocks projecting over the operating table.(SIMS position)

2. Application of the band: A anal speculum is inserted into the anal opening. The haemorrhoid is grasped by forceps and maneuvered into the cylindrical opening of the ligator. The ligator is then pushed up against the base of the hemorrhoid, and the rubber band is applied. This is Barron's procedure.

- The CRH-O'Regan ligation system eliminates the use of forceps. The device applies gentle suction which allows the doctor to place a small rubber-band around the base of the hemorrhoid.
- In our study we use CRH-O'Regan ligation system

h. Group B-undergone Open Excisional haemorrhoidectomy under saddle block/spinal anesthesia

- The best position for the patient is in the peone Jack-Knife position. This is harder to organise than the lithotomy position and some surgeons perform the operation in the lithotomy position to avoid the difficulties in placing the patient in the prone Jack-Kaife position. In our study we use lithotomy position
- Prepping and draping of the perineum come next, some surgeons advocate shaving off hairs, others do not
- The surgeon places two digits of his gloved hand into the anal canal and then inserts a bivalved anal speculum or a slotted proctoscope. The surgeon carefully plans out the procedure at this stage, one of the main aims is to maintain wide mucocutaneous bridges to maintain continence and to prevent post-operative anal stenosis.
- The surgeon removes the haemonhoid(s) starting on the outside with the biggest haemorrhoid (try to avoid the one that will drip blood and ruin your view for the rest of the operation). The external component of the haemorrhoid is grasped with a forceps and the skin incised with a knife in a curved fashion with the concavity pointing towards the anal canal. Most of the rest of the dissection is carried out with the diathermy needle or sissors. The incision is carried on into the anal canal around the haemorrhoid, at this stage a second grasping forceps is applied to the haemorrhoid further down on the inside. The surgeon may need to adjust the position of the speculum at this stage. The speculum will tense the internal sphincter so this is easier to identify and the surgeon must avoid carrying the dissection too deeply where he may damage the internal sphincter. As the incisions go deeper into the anal canal they come closer together until they almost meet. The pedicle of the haemorrhoid is divided and then haemostais is secured with diathermy or cat-gut lirature. The completed incision often looks like a tennis raquet, with the handle deep in the anal canal and the head of the raquet points from the anus towards the buttocks. It is sometimes necessary to put in some absorbable sutures to control bleeding, but these should be avoided if possible because they cause pain in the post-operative period. It is more often than not unnecessary to place a haemostatic suture in the pedicle of the haemorrhoid.

i. Preoperative antibiotic-Tab Ciprofloxacin and Tab Metronidazole on night before operation. Inf. Ciprofloxacin and Inf. Metronidazole for 1 day postoperatively then respective oral tablets for next 5 days are given to all patients.

j. Sitz bath and/or local ointment application and laxatives post- operatively are given.

j. early post-operative data regarding complications is collected on 1" 3" 7 and 30 post-operative day by thorough clinical examination. Patients are followed up at 1 month, 3

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month, 6 month and 1 year postoperatively and any recurrence of haemorrhoids or any other complications is noted.

DISCUSSION

Hemorrhoidal disease is the most common disease affecting the large intestine and rectum globally, with an estimated prevalence of 2.9% to 27.9%, of which over 4% are symptomatic [5]. Approximately one-third of these patients seek medical advice.The age distribution exhibits a Gaussian distribution, with a peak occurring between the ages of 45 and 65. [6], and finally starting to decline after age 65. More men than women are affected than women. Our study also shows similar ends. The results of our study show that the peak incidence occurs between the ages of 40 and 50, and that men are more likely to be affected (76%) than women (24%).

The anorectal vascular cushions and the internal anal sphincter are essential for maintaining continence because they support soft tissues and keep the anal canal closed. Theoretically, when the supporting suspensory (Treitz) muscle is injured, the vascular cushions shift downward, causing hemorrhoids. [7].Hemorrhoidal symptoms can be brought on by a variety of things, including a low-fiber diet, prolonged straining, constipation, diarrhea, and hard stool. [8]. Hemorrhoids can cause bleeding in the rectum, prolapse of the hemorrhoidal cushions, pain or discomfort associated with thrombosis, mucous discharge, and incontinence, especially when it comes to fluids. Two-degree hemorrhoids are included in our investigation. As a result, all of our patients had rectal bleeding in addition to some sort of leak. Others consist of scratching, rubbing, etc.

Hemorrhoids with symptoms have been treated in a variety of ways over time. Preventive measures have included conservative medical management, non-surgical bandages, and stapled hemonoidectomy. Some medical treatments, like bulk-forming agents and diet recommendations high in fiber, may help avoid constipation and the aftermath of hemorrhoids. [9] Moreover, there are a tonne of commercial ointment preparations—including flavonoids—that are offered for the treatment of symptoms; nevertheless, objective data proving their effectiveness is scarce. Among the non-surgical options are rubber band ligation (RBL), injection derotherapy, cryotherapy, infrared coagulation laser therapy, and diathermy coagulation. All of these can be performed under anesthesia as outpatient procedures.

For hemorrhoids ranging in grade from one to three (grade 1-111), rubber band ligation seems to be the best option; these nonsurgical techniques are considered the main options. of every adverse event, sustained efficacy, and adherence to surgery. Blaisdell provided the earliest description of rubber band ligation (RBL) in 1958. [10], is a relatively inexpensive, quick, and simple outpatient procedure that Barron (Barron 1963) subsequently altered.

It's safe to repeat the application of up to three rubber bands in one sitting, ideally on an insensitive area slightly above the dette line, after four to six weeks. Bands can be applied using a number of techniques, including endoscopic ligation, but the suction method is the most popular.

The patient should be informed that bleeding may occur when the banded hemorrhoid sloughs off in 10–14 days.

The success rate of ligation treatment varies from 69% to 94%, according to various studies (Bat 1993). [11]. RBL is associated with a low rate of complications (less than 25%). Sardinha (2002) may result in potentially fatal outcomes such as external hemorrhoids thrombosis, pelvic sepsis, anal pain, minor bleeding, persistent ulcer, priapism, and difficulty urinating. If conservative measures fail to control a patient's symptoms, they may be referred to a surgeon for surgical management. Among the conditions that call for surgical intervention are a significant external component, hypertrophied papillae, a concurrent fissure, widespread thrombosis, or a recurrence of symptoms after repeated RBL. It is possible to use both closed (Ferguson) and open (Milligan-Morgan) techniques. The tools needed are a scalpel, electro cautery, scissors, and laser.

The Milligan-Morgan haemorrhoidectomy is the gold standard and most frequently performed procedure. After a hemorrhoidectomy, pain is the most common problem associated with the surgical techniques. The other early complications are subcutaneous abscess (0.5%), secondary or actionary bleeding (2.4%–6%), and urinary retention (20.1%).

Among the long-term effects are anal fissure (1%–2.6%) and anal stenosis (19%). incontinence (0.4%), hemorrhoidal recurrence (0.5%), and fistula [12] Hemorrhoidectomy was replaced by a new procedure called stapled hemorrhoidopexy, which was introduced by Longo (1998). This surgical technique uses a circular stapling device to reposition the vascular cushions to their original site after excising a circular strip of lower rectal mucosa. We will be monitoring the long-term consequences of this procedure. Despite the availability of multiple treatment options, rubber band ligation and surgical hemorrhoidectomy are currently used non-surgically and surgically, respectively. In our study, the

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following characteristics of rubber band ligation and open excisional hemorrhoidectomy were compared.

Operation:

We operate on a total of cases using two different approaches because our research is comparative in nature. Half of the patients received treatment with rubber band ption, and the other patients underwent open excisional hemorrhoidectomy. Rubber band ligations were found to have an average pingtime of 5.76+2.095 minutes, which is substantially less than the excisional hemorrhoidectomy's 32.645.375 minutes. ($p<0.0001$)

Post-operative complications:

Main post-operative complications are--

(a) Compared to 100% of OEN cases, 48% of RBL cases had pain after surgery.

(b) Wound infection: 2% of RBL cases versus 12% of OEH cases had it.

(c) Fecal incontinence: Compared to 2% of OEH cases, RBL did not display fecal incontinence.

(d) 4% of RBL cases had post-operative bleeding, compared to M% of OEH cases.

(e) 8% of \EH cases had anal stenosis, whereas 0% of RBL cases had it.

(f) Urinary retention: It was not seen in RBL cases, as opposed to 8% in OEH cases.

Post perative hospital stay:

The average length of stay after surgery in RBL is 1.500.9313 days, which is significantly shorter than in OEH (8.32+2.236 days), according to our analysis.Our study was carried out as a daycare procedure in 11 cases.

Time until return to work after operation:

It was found that the time until return to work after RBL is shorter (3.15+2.618 days) than it was for OEH (5.62+2.477 days).

Recurrence: When it comes to recurrence, OEH in our study performs better (4%) than RBL (16%), in contrast to other findings.Our follow-up period, however, is limited to 30 days after surgery.Consequently, long-term trends cannot be shown by these values.

Mortality:

Our series does not deal with mortality.

Advantage of Rubber band Ligation over Open excisional haemorrhoidectomy in second degree haemorrhoids:

Rubber band ligation is a non-surgical method of managing hemorrhoids. There is no need for anesthesia during this procedure. Rubber band ligation requires less time for surgery, fewer post-operative complications, a shorter average length of stay in the hospital after surgery, and a shorter recovery period than open excisional hemorrhoidectomy; in our investigation, only lignocaine jelly was used for this procedure. On the other hand, open excisional hemorrhoidectomy almost always requires regional or general anesthesia, and these anesthetic procedures have their own set of complications.

In the end, rubber band ligation is simple, rapid, less morbid, and economical in the long run.

This finding are comparative with the study done by

Murie et al. examined additional issues like low back pain, Skin Bridge across the anus, and acute anal fissure (Murie 1980). There was no occurrence of faecal incontinence with either procedure; however, two patients experienced fatus incontinence after electrohemodialysis. Even though EH was associated with an overall increase in the frequency of individual complications.

Marie et al. reported the mean number of days off from work after either treatment (Murie 1980). Patients undergoing RBL missed significantly fewer workdays than those undergoing EH (one trial, 68 patients, WMD 29.00, 95% CI 21.24 to 36.76; $p < 0.00001$).

A Bat and Companions (Bat 1993) Depending on the study, ligation therapy has a success rate ranging from 69% to 94%. Sardinha et al. report that RBL is associated with a low rate of complications (less than 2%) (Sardinha 2002).

CONCLUSION

Our study concludes that in the treatment of second-degree hemorrhoids, rubber band ligation offers some advantages over open excisional hemorrhoidectomy.

- The mean duration of operation is reduced.
- Less post-operative complications occur.
- After surgery, the length of hospital stay is typically decreased.
- There's less time left before you go back to work.

REFERRENCES

1. Lunniss PJ, Mann CV. Classification of internal haemorrhoids: a discussion paper. Colorectal Dis 2004;6(4):226-32
2. Thomson WHF. The nature of haemorrhoids. Br J Surg 1975;62(7):542-52
3. Sun WM, Read NW, Shorthouse AJ. Hypertensive anal cushions as a cause of the high anal canal pressures in patients with hemorrhoids. Br J Surg 1990;77:458-62.
4. Mortensen PE, Olsen J, Pedersen LK, Christiansen J. A randomized study on haemorrhoidectomy combined with anal canal dilatation. Dis Colon Rectum 1987;30:755-7.
5. Johanson 1990:Johanson JF, Sonnenberg A. The prevalence of haemorrhoids and chronic constipation:

an epidemiological study. Gastroenterology 1990;98(2):380-6.
6. Parks 1955: Parks AG. De Haemorrhois. A study in surgical history. Guy's Hospital report 1955;104:135-50.
7. Haas 1984:Haas PA, Fox TA Jr, Haas GP. The Pathogenesis of haemorrhoids. Diseases of the colon and rectum 1984;27(7):442-50.
8. Thaha 2002:Thaha MA, Campbell KL, Steele RJC. Non-operative treatment for haemorrhoidal disease. Cochrane Database of Systematic Reviews 2002, Issue 3.
9. Brisinda 2000:Brisinda G. How to treat haemorrhoids: Prevention is needs haemorrhoidectomy skilled operators. BMJ best; 2000;321(7261):582-3.
10. Blaisdell 1958:Blaisdell PC. Office ligation of internal hemorrhoids. American journal of Surgery 1958;96(3):401-404.
11. Bat 1993:Bat L, Melzer E, Koler M, Dreznick Z. Complications of Rubber Band Ligation of Symptomatic Internal Hemorrhoids. Diseases of the colon and rectum 1993;36(3):287-290
12. Bleday 1992:Bleday R, Pena JP, Rothenberger DA, Goldberg SM, Buls JG. Symptomatic Hemorrhoids: Current Incidence and Complications of Operative Therapy. Diseases of the colon and rectum 1992;35(5):477- 481.