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ORIGINAL RESEARCH

Comparative Study Of Different Treatment Modalities Of Haemorrhoids: Band Ligation, Haemorrhoidectomy And Stapled Haemorrhoidopexy

[1]Dr. Pulkit Sharma, [2]Dr. Satyendra Prasad Mukhiya, [3]Dr. Santosh Kumar Prajapati

[1]Senior Resident, Department of Surgery, RD Gardi Medical College Ujjain, Surasa, Madhya Pradesh, India
[2]Professor, Department of Surgery, Government Medical College Singrauli Surasa, Madhya Pradesh, India
[3]Senior Resident, Department of Surgery, RD Gardi Medical College Ujjain, Surasa, Madhya Pradesh, India

Corresponding Author
Dr. Pulkit Sharma
Senior Resident, Department of Surgery, RD Gardi Medical College Ujjain, Surasa, Madhya Pradesh, India

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ABSTRACT:
BACKGROUND: This Study Was Carried Out To Evaluate Possible Differences Of Pre And Post Treatment Parameters Between Patients Undergoing Rubber Band Ligation, Hemorrhoidectomy, Stapled Haemorrhoidopexy. **METHODS:** The Prospective Study Was Carried Out In 120 Patients Of Haemorrhoids During MAY 2022 To OCTOBER 2023. Each Group Of 40 Patients Treated With Rubber Band Ligation, Hemorrhoidectomy, Stapled Haemorrhoidopexy And Followed Up For 1 Year For Complications. **RESULTS:** In The Present Study Pain, Bleeding And Urinary Retention Were Common Following Haemorrhoidectomy. Anal Incontinence Was Found To Be A Major Problem In Post Haemorrhoidectomy Period. Two Patients Had Anal Stenosis After Haemorrhoidectomy. Second Setting Required In Patients Of Rubber Band Ligation. No Recurrence Noted In Haemorrhoidectomy Patients. Following Rubber Band Ligation, 32 (80%) Resolved, 7 (17.5%) Improved And 1 (2.5%) Unchanged, While After Haemorrhoidectomy, 30 (75%) Resolved And 10 (25%) Improved. Following After Stapled Haemorrhoidopexy,34(85%) Resolved And 6(15%) Improved. **DISCUSSION:** Band Ligation Is The Best Initial Treatment Option For Second Degree Haemorrhoids Compared To Other Methods. It Can Also Be Used As The Initial Treatment For Early Third Degree Haemorrhoids With Acceptable Cure Rate.Haemorrhoidectomy Remains The Only Form Of Therapy With Lasting Results. Thus It Should Be Considered For All Cases Of Third And Fourth Degree Haemorrhoids And For Uncontrollable Symptomatic Recurrences Following Conservative Procedures. STAPLER HAEMORRHOIDOPEXY It Is Generally Indicated For The More Severe Cases Of Internal Haemorrhoidal Prolapsed(3rd And 4th Degree). The Procedure May Be Contra-Indicated When Only One Cushion Is Prolapsed Or In Severe Cases Of Fibrotic Piles Which Cannot Be Physically Repositioned.

KEYWORDS: Haemorrhoids,Rubber Band Ligation, Haemorrhoidectomy, 3% Surgical Haemorrhoidectomy.

INTRODUCTION:

Hemorrhoids Are Widely Recognized As One Of The Most Prevalent Medical Conditions Affecting The General Population. Many People Worldwide Suffer From Hemorrhoids, Often Due To Inconsistent Diets And The Demands Of Modern Life. Hemorrhoidal Disease Is Ranking As The Most Common Condition Affecting The Rectum And Large Intestine. Estimates Suggest It Affects Between 2.9% To 27.9% Of The Global Population, With Over 4% Of Those Affected Experiencing Symptoms.

We Conducted A Prospective Randomized Study To Compare The Advantages And Disadvantages Of Commonly Practiced Methods Like Rubber Band Ligation, Haemorrhoidectomy, Stapler Haemorrhoidopexy. In This Study, We Are Evaluating Patients With Haemorrhoids , Treated With Various Treatment Modalities Like Banding, Haemorrhoidectomy And Stapled Haemorroidpexy And Comparing Efficacy Of Each Of Them.

MATERIAL AND METHODS:

This Study Was Conducted At R.D GARDI MEDICAL COLLEGE, UJJAIN Between The Period MAY 2022 To October 2023. About 120 Patients Presented With The Clinical Features Of Primary Haemorrhoids To The Department Of General Surgery, Were Included In The Study. It Includes Data Of All Patients With Haemorrhoids Treated With Some Form Of Treatment Under Study And

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Their Effects On Their Symptoms And Outcome Are Analysed. Equal Numbers Of Cases (40) Are Allotted To Each Form Of Treatment Under Study And The Data Were Recorded In A Master Chart.

Inclusion Criteria:
1. Age 20 Years To 65 Years.
2. Haemorrhoid Patients With Symptoms.

Exclusion Criteria:
1. Patients Presenting With Anal Fissure, Fistula, Complicated Haemorrhoids.
2. Immunocompromised Patient, Pregnant Patients

Methods:
Ethical Clearance From The Institutional Ethical Committee Was Obtained. Patients Were Examined On An Outpatient Basis. The Selection Of Patients Was Based On The Degree Of Haemorrhoids. First, Second And Third Degree Patients Treated With Rubber Band Ligation. Second,Third And Fourth Degree Patients Planned For Hemorrhoidectomy, Third And Forth Degree Patients Planned For Stapled Haemorrhoidectomy Admitted In The Wards And Posted On Operative Day. Post Procedure, Complications Recorded In Details And Treated Accordingly. Patient Demographics, Duration Of Symptoms, Operative Details, Hospital Stay Were Documented.
Among 120 Cases , Equal No Of Cases Are Included In Each Study Group.
40 Patients Are Subjected To Rubber Band Ligation. Among Them, 20 Cases Belong To First Degree,15 Cases Are Second Degree,5 Cases Are Third Degree, 0 Cases Are Fourth Degree Haemorrhoids.
40 Patients Are Treated With Hemorrhoidectomy, Both Open And Closed Method. Since Surgical Excision Is Not Feasible In First Degree Haemorrhoids, They Are Not Included. This Study Group Has 18 Number Of Cases In Second Degree,17 Cases In Third Degree, 5 Cases Are Fourth Degree.
40 Patients Are Treated With Stapler Haemorrhoidopexy, Which Is Not Feasible In First Degree Haemorrhoids, They Are Not Included. This Study Group Has 5 Number Of Cases In Second Degree,20 Cases In Third Degree, 15 Cases Are Fourth Degree.
Follow Up Was Performed On 1st Week, 2nd Week, One Month, 6 Month And 1 Year Period And Data Recorded For Complications. During Follow Up Visits Patients Asked For Change In Symptoms, Examined Clinically For Signs. Patient's Assessment Recorded As Resolved Or Improved Or Unchanged Or Worsened.

OBSERVATIONS:
Distribution Of Cases According To Age. Maximum No. Of Patients, I.E. 30 (25%) Were In The Age Group 30-39 Years And 40-49 Years Followed By The Age Group 50-59 Years That Had 27 (22.5%) Patients. The Mean Age Of Patient Is 43.025 Years, And Standard Deviation Is 11.71, Indicating Variability In Ages Around The Mean. The Ages Range From A Minimum Of 20 Years To A Maximum Of 65 Years.

AGE GROUPS (IN YEARS)	FREQUENCY	PERCENT
20- 29 years	18	15
30-39 years	30	25
40- 49 years	30	25
50 – 59 yrs	27	22.5
60 yrs & above	15	12.5
Total	120	100
MEAN	43.02 YEARS	
RANGE	20-65 YEARS	
STANDARD DEVIATION	11.71	

Out Of Total 120 Patients, 74 (61.6%) Patients Were Males And 46 (38.33%) Were Females.

EARLY COMPLICATION	RUBBER BAND LIGATION		HAEMORRHOIDECTOMY		STAPLER HAEMORRHOIDOPEXY	
	NO.	%	NO.	%	NO.	%
PAIN	6	15	35	87.5	10	25
BLEEDING	10	25	25	62.5	10	25
DISCHARGE	5	12.5	12	30	8	20
ANAL STENOSIS	0	0	2	5	2	5
INCONTINENCE	0	0	5	12.5	2	5
CONSTIPATION	1	2.5	10	25	4	10
RETENTION	0	0	10	25	4	10

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In This Study, The Symptoms More Prevalent Are Bleeding, Prolapse And Constipation. Among 120 Cases, 76 Had Presented With Bleeding. In This Study, 65 Cases Had Constipation. Prolapse Present In 32 No Of Cases. Mucous Discharge **:** This Is Often Associated With Prolapsed Of Pile Mass. It Is Noted In 20 No Of Cases.
Anal Pain: In This Study, This Symptom Was Present In 26 No Of Cases.

CLINICAL PRESENTATION	NO. OF CASES	PERCENTAGE
BLEEDING	76	63.33
CONSTIPATION	65	54.16
PROLAPSE	32	26.66
MUCOUS DISCHARGE	20	16.66
ANAL PAIN	26	21.66

Post Procedure Early Complication Among The Case Reviewed, Pain Was Reported By 42.5% Individuals, While 57.5% Did Not Experience Pain. Bleeding Was Observed In 37.5% Of Individuals, While 62.5 Did Not Experienced Bleeding. Additionally Anal Stenosis Was Reported In 3.33%, And Incontinence, Constipation, Retention Was Reported In 5.83%, 12.5%, 11.66% Individuals Respectively.
Post Procedure, Late Complication Among The Case Reviewed, Pain Was Reported By 14.16% Individuals, While 85.83% Did Not Experience Pain. Bleeding Was Observed In 13.33% Of Individuals, While 86.66% Did Not Experienced Bleeding. Additionally Anal Stenosis Not Reported In Any Cases, And Incontinence, Constipation, Retention Was Reported In 0.83%, 4.16%, 0.83% Individuals Respectively. It Is Found In The Study, That Early Complication, Postoperative, Pain Most Frequently Occurs After Haemorrhoidectomy(87.5%). Bleeding Most Frequenly Occurs After Haemorrhoidectomy(62.5%).

LATE COMPLICATION	RUBBER BAND LIGATION		HAEMORRHOIDECTOMY		STAPLER HAEMORRHOIDOPEXY	
	NO.	%	NO.	%	NO.	%
PAIN	0	0	15	37.5	2	5
BLEEDING	4	10	12	30	2	5
DISCHARGE	1	2.5	6	15	2	5
ANAL STENOSIS	0	0	0	0	0	0
INCONTINENCE	0	0	1	2.5	0	0
CONSTIPATION	0	0	4	10	1	2.5
RETENTION	0	0	1	2.5	0	0

COMPLICATION	RUBBER BAND LIGATION					HAEMORRHOIDECTOMY					STAPLED HAEMORRHOIDOPEXY				
	1 WEEK	2 WEEK	1 MONTH	6 MONTH	1 YEARS	1 WEEK	2 WEEK	1 MONTH	6 MONTH	1 YEARS	1 WEEK	2 WEEK	1 MONTH	6 MONTH	1 YEARS
PAIN	6	0	0	0	0	30	12	2	0	0	6	1	0	0	0
BLEEDING	8	2	0	0	0	15	6	1	0	0	4	1	0	0	0
DISCHARGE	4	1	0	0	0	5	2	0	0	0	2	2	0	0	0
ANAL STENOSIS	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
INCONTINENCE	0	0	0	0	0	3	0	1	0	0	0	0	1	0	0
CONSTIPATION	0	0	0	0	0	8	4	1	0	0	2	2	0	0	0
RETENTION	0	0	0	0	0	4	1	0	0	0	2	0	0	0	0

Following Rubber Band Ligation, 32 (80%) Resolved, 7 (17.5%) Improved And 1 (2.5%) Unchanged, While After Haemorrhoidectomy, 30 (75%) Resolved And 10 (25%) Improved. Following After Stapled Haemorrhoidopexy,34(85%) Resolved And 6(15%) Improved.

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PATIENT ASSESSMENT	RBL	EH	SH
RESOLVED	32(80%)	30(75%)	34(85%)
IMPROVED	7(17.5%)	10(25%)	6(15%)
UNCHANGED	1(2.5%)	0	0
WORSENED	0	0	0

Clinical Presentation:- Compare With Other Studies

Authors	Bleeding	Prolapse	Constipation	Discharge	Irritation
Clark Et Al(1969)	62%	70%	-	34%	24%
U.K.Jain(1989)	96%	75%	-	6%	17%
Emin – A- Carapett(1998)	70%	68%	-	28%	26%
Bhuiya Et Al(2010)	100%	-	88%	-	11%
This Study(2012)	63.33%	26.66%	54.16%	16.66%	21.66%

RUBBER BAND LIGATION

According To Various Authors & This Study, Rubber Band Ligation Was Suitable For Second Degree Haemorrhoids. The Criticism Of This Method Is That It Does Not Remove The Skin Covered Component Of The Piles. So, It Is Not Suited For Third Degree & External Haemorrhoids.

AUTHOURS	CURE RATE
Murie Et Al (1980)	79%
Stein Berg Et Al (1975)	89%
Wrobleschi Et Al (1980)	80%
Greca Et Al (1981)	64%
Splanazani Et Al (1997)	91%
Shanmugam Et Al (2005)	90%
Sleisenger 2007	75%
This Study(2012)	62.5%

SURGICAL MANAGEMENT- HEMORRHOIDECTOMY:

According To Other Study, Hemorrhoidectomy Gives Good Result In All Degree Of Piles , This Study Also Concluded The Same Result. But It Is Usually Considered For Cases Of 3rd & 4th Degree Haemorrhoids And Early Cases When The Conservative Treatment Fails, Because Of The High Incidence Of Postoperative Pain.

AUTHOURS	NO.OF. CASES	PERIOD OF FOLLOW UP	CURE RATE
Soderland (1962)	100	6-7 Yrs	99%
Chang Et Al (1981)	24	-	97%
Murie Et Al (1981)	45	1 Yr	93%
Shanmugam Et Al(2005)	-	1 Yr	95%
This Study(2012)	40	1yr	90%

Complication	Varut Et Al	This Study(2012)
Pain	1.6-30%	37.5%
Bleeding	0.03 -6%	30%
Sepsis	0.5-5.5%	Nil
Stenosis	0-6%	Nil
Retention	2-36%	2.5%
Fecal Incontinence	2-12%	2.5
Recurrence	2-5%	5%

STAPLER HAEMORRHOIOPEXY

According To Other Study, STAPLER HAEMORRHOIOPEXY Gives Good Result In 3rd And 4th Degree Of Piles , This Study Also Concluded The Same Result. But It Is Usually Considered For Cases Of 3rd & 4th Degree Haemorrhoids.

This Study Show The Cure Rate Of 85% And Compare To Other Study, Am J Surg Et Al, Show The Cure Rate Of 87.5%.

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Complication	Rowsell Et Al	This Study(2012)
Pain	1.6-25%	5%
Bleeding	1 -6%	5%
Sepsis	0.5-5.5%	Nil
Fecal Incontinence	2-8%	Nil
Recurrence	2-5%	5%

DISCUSSION:

In This Study, We Compare Our Results With Various Other Studies Comparing Various Treatment Options For Haemorrhoids Done At Different Parts Of The World And Analysis Is Done.

AGE INCIDENCE, Hemorrhoids Are Most Commonly Noted In 45-65 Yrs Of Age(5). Our Study Had The Result That It Is Most Commonly Seen In Age Group Of 30-50 Yrs Which Correlates Well With The Literature Review.

Total **120** Cases Were Included In The Study. Maximum Numbers Of Patients Were Found In The Age Group **30-50 Years**. These Findings Are Comparable With Study Carried Out **Murie Et** Al. Who Reported The Mean Age Of 50 ± 12 Years, **Konings** Et Al. Who Reported The Mean Age Of 51 Years And **Hosch Et Al**. Who Reported The Mean Age Of 50 Years, **Bhuliya Et Al**, Who Reported The Maximum Patient In Age Group Of 20-29yrs.

The Overall Male: Female Ratio In Our Study Was 74:46. These Finding Correlate Well With Male Preponderance Noted By Stefan Et Al. (M:F = 2.4:1), **Sohn Et Al**. (2:75:1), **Murie Et Al**. (M:F = 1.8:1 In The H Group And 1.86:1 In The R Group), **Murie Et Al**. (M:F = 2:1 In The R Group And 1.9:1 In The H Group).

CONCLUSION

In This Study Titled "COMPARATIVE STUDY OF DIFFERENT TREATMENT MODALITIES OF HAEMORRHOIDS: BAND LIGATION, HAEMORRHOIDECTOMY AND STAPLED HAEMORRHOIDOPEXY"

120 Cases Of Haemorrhoid Which Were Admitted In RD Gardi Medical College, Ujjain, MP, During Period Of 2022 To 2023 Were Studied And Concluded As Follows.

By Analysis Of The Data Obtained, The Results Are Studied And The Following Findings Are Noted.

Total **120** Cases Were Included In The Study. Maximum Numbers Of Patients Were Found In The Age Group **30-50 Years**. Mean- 43 Yrs.

Male Preponderance. Out Of Total 120 Patients, 74 (61.6%) Patients Were Males And 46 (37.33%) Were Females

Common Clinical Feature Being Bleeding(63.33%), Constipation(54.16%) & Prolapse Of Pile Mass(26.66%).

The Cases In This Study Mostly Belongs To Grade 3 (42 Cases), Accounting For 35% Followed By Grade 2(38 Cases), Accounting For 31.66% Of The Total.

Results regarding management as follows:

Band ligation is the best initial treatment option for second degree haemorrhoids compared to other methods. It can also be used as the initial treatment for early third degree haemorrhoids with acceptable cure rate.

Advantages:

- Less painful.
- No bowel preparation required.
- No anaesthesia.
- Less complications.
- Cheaper.
- Overall Cure rate – 75%

Disadvantages:

- External pile mass & skin tags cannot be treated.
- Secondary hemorrhage may occur.

Surgery (hemorrhoidectomy) one of the best treatment for third and fourth degree haemorrhoids and the patients for whom other less invasive options failed to cure the disease

Advantages:

- For III & IV degree & recurrent haemorrhoids.
- External pile mass & skin tags can be removed.
- Overall Cure rate – 90%

Disadvantages:

- Painful procedure.
- Anaesthesia required.
- More bleeding.
- Longer duration of stay.

STAPLER HAEMORRHOIDOPEXY

It is generally indicated for the more severe cases of internal haemorrhoidal prolapsed(3rd and 4th degree). The procedure may be contra-indicated when only one cushion is prolapsed or in severe cases of fibrotic piles which cannot be physically repositioned.

Advantages

- Less postoperative pain
- Less post operative hospital stay
- Reduced analgesic use
- Faster recovery

Disadvantages

- Anesthesia required
- Sepsis
- Need for experience, as it is advanced surgical skill; costlier; may cause a full-thickness excision of the rectal wall may injure the anal sphincter.

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- Improper purse string can cause incomplete doughnut leading to severe haemorrhage.

On concluding all these results analysis, banding for second degree haemorrhoids gives excellent results. Surgical treatment like open & closed hemorrhoidectomy and stapler haemorrhoidectomy remains the ideal treatment option for third & fourth degree haemorrhoids and recurrent cases.

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