

Management of Grade Iii Hemorrhoids By Hemorrhoidectomy With Beim Technique



Medical Science

KEYWORDS : Hemorrhoidectomy; BIEM technique; MM group; Anorectal disorders

* **Raju Bakka**

Associate Professor, Department of General Surgery, Osmania Medical College, Osmania General Hospital, Hyderabad, Telangana, India *Corresponding author

Mohd. Abiduddin Arif

Department of General Surgery, Osmania Medical College, Osmania General Hospital, Hyderabad, Telangana, India

ABSTRACT

Hemorrhoids are the vascular structures in the anal canal and could be so painful. In our prospective study carried out in Osmania General Hospital included twenty patients with grade III and IV hemorrhoids. These patients were taken up for Surgery by BIEM technique. Patients demographics, Operative details, Number of analgesics, Post Operative pain, Operating time, Intra-operative blood loss, Hospital stay, Early and delayed complications, time off from work and normal activity were recorded timely. Diagnosis was carried out based upon digital rectal examination and proctoscopy. Significant pain reductions were observed in post operative patients. Results confirm that initial concept of elimination of lateral thermal injury does translate into less postoperative pain. BIEM group definitely showed various advantages over MM group.

Introduction: Hemorrhoids are the most common anorectal disorders encountered in clinical practice. Surgical treatment is considered to be the best therapeutic mode for hemorrhoidal disease [1,2]. Hemorrhoids are mainly classified as external and internal hemorrhoids where internal hemorrhoids are classified under IV grades based upon the degree of prolapsed. The classification is as follows:

Grade I: Just prominent blood vessels; No prolapse

Grade II: Prolapse upon bearing down with spontaneous reduction

Grade III: Prolapse upon bearing down with manual reduction

Grade IV: Prolapse that could not be manually reduced

Different surgical techniques have been developed to treat Grade III and IV hemorrhoids. Ligasure vessel sealing system is considered to be an ideal instrument for hemorrhoidectomy [3]. But it ensures short time benefit of reduced intra operative blood loss, operative time and post operative pain as well as resumption of work [4-9].

Thus we aimed to study the efficacy of vessel sealing in the management of grade III & IV hemorrhoids using BEIM Instrument and observed the following parameters:

Complications like pain, retention of urine, bleeding and incontinence.

Intra operative complications

Hospital stay

Cost of surgery

Long term complications like stenosis, incontinence and recurrence.

BIEM (Biological Electronic Impedence Auto-Measurement) technique makes tissue dry and hard without carbonization and it's a rapid curative technique that needs 3-5 seconds for each hemorrhoid. Also there is no bleeding while operation and no change of dressing are needed (Figure 1A, 1B).



Figure 1A) Instrument Panel



Figure 1B) Electronic Forceps, Tweezers & Coagulation Unit

Materials and methods:
Source of data (sample): Twenty patients with symptomatic Grade III & IV were considered for the study. This prospective study was carried out in Department of General Surgery, Osmania General Hospital, Hyderabad between October 2011 to September 2013.

Method of collection of data: All patients were admitted and investigated. Diagnosis was based upon digital rectal examination and proctoscopy. Surgery was done under spinal anesthesia in lithotomy position for all cases.

Inclusion criteria: Patients with Grade III & IV Hemorrhoids

Exclusion criteria: Diabetic Patients; Patients with bleeding tendencies; Patients with associated anorectal problems; Patients with history of anorectal operations.

Methods: All patients were taken up for surgery by BIEM technique. Patient demographics, operative details, number of analgesics, post operative pain, operating time, intra operative blood loss, hospital stay early and delayed complications and time off from work or normal activity was recorded. The patients were regularly followed up at 1, 3, 6, 9, and 12 months after surgery.

Results:

This study included 20 patients with III and IV grade hemorrhoids treated by BIEM Technique compared with historic controls (20) who underwent the conventional Milligan and Morgan procedure.

Age/Sex distribution: Age wise distribution showed that most of the patients belonged to the age group 41-50 followed by 31-40 age group. Male patients were four to five times more commonly affected than female patients in this study.

Symptoms distribution: The distributions of symptoms before surgery were comparable in both groups. Symptoms comprised fresh bleeding related to defecation (range 90-95%), prolapsed (100%), discharge (40%), pain (45-60%), and pruritis (range 30-55%) see Table 1.

Table 1: Symptoms before surgery in BEIM and MM groups.

Complaints	BEIM		MM	
	No.	%	No.	%
Bleeding	19	95	18	90
Prolapse	20	100	20	100
Discharge	8	40	8	40
Pain	12	60	9	45
Pruritis	6	30	11	55

Symptoms Appearance: Duration of symptoms before surgery was comparable in both groups i.e., BIEM group and conventional Milligan & Morgan Hemorrhoidectomy. Between 1-3 months (range 10-15%), 4-6 months (20-25%) 7-9 months (45-50%) 10-12 months (5-15%), more than 12 months (5-10%).

Constipation: Presence or absence of constipation in patients was compared treated by either Harmonic Scalpel Hemorrhoidectomy (HS) or conventional MM Hemorrhoidectomy. 80% suffered constipation in BEIM group and 70% in MM group.

Grade of Hemorrhoids: While 90% of patients suffered from grade III hemorrhoids in BEIM group, 70% suffered from grade III hemorrhoids in MM group and 10% suffered from grade IV hemorrhoids in BEIM group and 30% in MM group had the same (Table 2).

Table 2: Grade of hemorrhoids in patients treated by BEIM Hemorrhoidectomy and Conventional MM Hemorrhoidectomy.

Grade	BEIM		MM	
	No.	%	No.	%
III	18	90	14	70
IV	2	10	6	30

Hemoglobin Concentration: While 30% of patients in BEIM group and 45% in MM group had Hb % less than 12g/dL, 70% of patients in BEIM group and 55% in MM group had Hb more than 12g/dL.

Operating time: Operating time was initially longer in BEIM group but as an experience was gained Operating time was

shorter than MM group (Table 3).

Table 3: Operating time in patients treated by BIEM technique and conventional MM hemorrhoidectomy

Operating time (minutes)	BEIM		MM	
	No.	%	No.	%
<30 mins	14	70	4	20
>30 mins	6	30	16	80

Intra Operative Bleeding: Intra operative bleeding was more in MM group when compared to BEIM group (Table 4)

Table 4: Intra operative bleeding in patients treated by BEIM technique and Conventional MM hemorrhoidectomy.

Intraoperative bleeding	BEIM		MM	
	No.	%	No.	%
Bleeding	1	5	12	60

Post Operative complications are listed in the Table 5. While 75% of patients in MM group suffered from pain post operatively when compared to 35% in BEIM group. Urinary retention was present in 20% of patients in MM group. Post operative bleeding was present in 35% of MM group. Discharge was present in 50% of MM group when compared to 10% of patients in BEIM group. Infection occurred in 20% of patients in MM group while only 10% developed infection in BEIM group.

Table 5: Post operative complications in patients treated by BEIM technique and MM hemorrhoidectomy.

Post Operative Complications	BEIM		MM	
	No.	%	No.	%
Pain	7	35	15	75
Urinary Retention	1	5	4	20
Bleeding	0	0	7	35
Discharge	2	10	10	50
Infection	2	10	4	20

Hospital stay: While 76% of patients in B.I.E.M group were discharged after 3 days only 44% were discharged in MM group, 48% of patients in MM group had to stay upto 6 days while only 24% of them stayed till 6 days and 8% of patients in MM group had to stay more than 6 days in the hospital (Table 6).

Table 6: Duration of hospital stay in patients treated by BEIM technique and conventional MM hemorrhoidectomy.

Postoperative hospital stay (days)	BEIM		MM	
	No.	%	No.	%
1-3 days	19	95	11	55
4-6 days	1	5	7	35
>6 days	-	-	2	10

Discussion: Hemorrhoids are one of the most frequent anorectal disorders encountered in clinical practice. They are most common cause of bleeding per rectum and are responsible for considerable patient suffering and disability. Bleeding from first and second hemorrhoids often improves with addition of dietary fiber, stool softeners, increased fluid intake, and avoidance of straining. Persistent bleeding from first, second, and selected third degree hemorrhoids may be treated by rubber band ligation [10]. Surgical hemorrhoidectomy is generally indicated for grade III and IV hemorrhoids [11].

The obvious disadvantage of surgical hemorrhoidectomy is the postoperative pain resulting from the surgical defect in the sensitive perianal skin and anoderm. Much of this pain may arise from the thermal injury from the use of electrocautery or laser.

Conclusion: A prospective study was undertaken to evaluate

the advantages and disadvantages of hemorrhoidectomy with BEIM technique verses conventional MM procedure for surgical treatment of grade III and IV hemorrhoids. The prevalence of anemia in both groups was comparable and ranged between 20 to 25% of patients. The distribution of symptoms before surgery was also comparable without significant difference. Symptoms were fresh bleeding related to defecation, prolapsed, pruritis, pain, and discharge. Post operative evaluations reveal:

The degree of pain was higher in the MM group than that of the BEIM group.

Intraoperative bleeding was more frequent in the MM group. This indicated that BEIM hemorrhoidectomy may be suitable for anemic patients and patients with coagulation disorders.

Minor postoperative bleeding that did not necessitate surgical interference was also more encountered in the MM group than BEIM group within 7 postoperative days.

Urinary retention was more frequent in the MM group than in BEIM group within the first postoperative week. Urinary catheterization was not needed in any of the cases.

The prevalence of postoperative discharge was higher in MM group when compared to the BEIM group.

Duration of postoperative hospital stay was prolonged in the MM group than BEIM group as only 55% in MM group were discharged at three days when compared to 95% in BEIM group

Long term complications with 3 to 6 months postoperatively in both groups revealed the absence of anal stenosis, acute anal fissure, fecal incontinence and recurrence however, further follow up is needed.

BEIM hemorrhoidectomy is more expensive than conventional MM hemorrhoidectomy. Although the former operation had significant improved outcomes after surgery, it also had less post operative stay, thus providing significant financial benefits to justify the additional expenses.

References:

- Hussain JN. Hemorrhoids. *Prim Care*. 1999; 26: 35-51. <http://www.ncbi.nlm.nih.gov/pubmed/9922293>
- Armstrong DN, Ambrose WL, Schertzer ME, Orangio GR. Harmonic scalpel vs electrocautery hemorrhoidectomy: A prospective evaluation. *Dis Colon Rectum*. 2001; 44: 558-564. <http://www.ncbi.nlm.nih.gov/pubmed/11330583>
- Peker K, Inal A, Güllü H, Gül D, Sahin M, Ozcan AD, et al. Comparison of vessel sealing systems with conventional. *Iran Red Crescent Med J*. 2013; 15: 488-496. <http://www.ncbi.nlm.nih.gov/pubmed/24349747>
- Goligher JC. Hemorrhoids or piles, surgery of the anus, rectum and colon. 5th edition. London; Bailliere Tindall. 1984; 340-346; 98-149.
- Haas PA, Fox TA Jr, Haas Gp. The pathogenesis of hemorrhoids. *Dis Colon Rectum*. 1984; 27: 442-450. <http://www.ncbi.nlm.nih.gov/pubmed/6745015>
- Kurapati VK, Nishteswar K. Management of Ano-Rectal disorders by K ras tra: A clinical report. *Anc Sci Life*. 2014; 34: 89-95. <http://www.ncbi.nlm.nih.gov/pubmed/25861143>
- Lin HC, Luo HX, Zbar AP, Xie SK, Lian L, Ren DL, et al. The tissue selecting technique (TST) versus the Milligan-Morgan hemorrhoidectomy for prolapsing hemorrhoids: a retrospective case-control study. *Tech Coloproctol*. 2014; 18: 739-744. <http://www.ncbi.nlm.nih.gov/pubmed/24952734>
- Argov S, Levandovsky O, Yarhi D. Milligan-Morgan hemorrhoidectomy under local anesthesia - an old operation that stood the test of time. A single-team experience with 2,280 operations. *Int J Colorectal Dis*. 2012; 27: 981-985. <http://www.ncbi.nlm.nih.gov/pubmed/22350269>
- Towliat Kashani SM, Mehrvarz S, Mousavi Naeini SM, Erfanian R. Milligan-Morgan Hemorrhoidectomy vs Stapled Hemorrhoidopexy. *Trauma Mon*. 2012; 16: 175-177. <http://www.ncbi.nlm.nih.gov/pubmed/24749096>
- Ali SA, Mohammad AT, Jarwar M, Imran J, Siddique AJ, Dalwani AG. Outcome of the rubber band ligation with Milligan Morgan haemorrhoidectomy. *J Ayub Med Coll Abbottabad*. 2010; 22: 56-60. <http://www.ncbi.nlm.nih.gov/pubmed/22455262>
- Yeo D, Tan KY. Hemorrhoidectomy - making sense of the surgical options. *World J Gastroenterol*. 2014; 20: 16976-16983. <http://www.ncbi.nlm.nih.gov/pubmed/25493010>