Basrah Journal of Surgery

Original Article

Bas J Surg, March, 10, 2004

A METHOD FOR HAEMORRHOIDECTOMY USING MONOPOLAR DIATHERMY WITH WOUND CLOSURE

Mazin Hawaz Al-Hawaz

M.B.,Ch.B. Arab Board Certified Surgeon. Professor of Surgery, Department of Surgery, College of Medicine, University of Basrah, Basrah; IRAQ.

Summary

Objective: To compare the effectiveness of monopolar diathermy haemorrhoidectomy and closure of haemorrhoidectomy wound with conventional Milligan-Morgan haemorrhoidectomy in reducing the post operative pain and complications. Also to determine the time of hospital stay, wound healing and return to activity.
Patients & Methods: A total of 180 patients with symptomatic haemorrhoids (3rd and 4th degree) were studied from May 2000 to March 2003 at Basrah General Hospital. Patients were randomized into two groups; group (A) treated by open haemorrhoidectomy according to Milligan –Morgan (no.=100), and group (B) treated by 30 watts monopolar diathermy haemorrhoidectomy with closure of haemorrhoidectomy wound (no=80).
Result: Significant differences between the two groups were noticed regarding the postoperative pain and complications, time of wound healing and return to activity.
Conclusion: patients with symptomatic haemorrhoids derive greater benefit from diathermy haemorrhoidectomy with wound closure regarding less postoperative pain and complications, short hospital stay and early return to normal life.

Introduction

Haemorrhoidectomy is commonly performed for advanced haemorrhoidal disease, or when non-operative treatment has failed to alleviate symptoms. The major disadvantage of haemorrhoidectomy is postoperative pain that requires an average of more than two weeks away from work[1,2]. Pain is usually worst during the passage of stool owing to direct stimulus of the wound and sphincter spasm. Pain has also been attributed to the presence of a bulky dressing within the anal canal and to the fact that the anal canal has been bared of its epithelium[2-4]. Not surprisingly, modifications to decrease postoperative pain have included the addition of lateral internal sphincterotomy[5], closed haemorrhoidectomy[3], anal dilatation and anal muscle relaxants[6]. Although all of these techniques have had their advocates, none has achieved a sufficiently significant decrease in pain[3-7].

Correspondence to:
Dr. Mazin H. Al-Hawaz
Department of Surgery, College of Medicine
University of Basrah, Basrah; IRAQ.

While electrosurgical instruments are used increasingly for tissue dissection, concerns about excessive scarring and poor wound healing have curtailed the wide spread use of electrosurgery[8,9].

This study was conducted to compare the effectiveness of monopolar diathermy haemorrhoidectomy with closure of haemorrhoidectomy wound with conventional Milligan-Morgan haemorrhoidectomy in reducing the post operative pain and complications. Also to determine the time of hospital stay, wound healing and return to activity.

Patients and Methods

A total of 180 patients with symptomatic haemorrhoids (3rd and 4th degree) were studied from May 2000 to March 2003 at Basrah General Hospital.

Exclusion criteria were; patients with perianal abscess, fistula, fissure, rectal cancer, Crohn's disease, ulcerative colitis and bleeding disorders. Proctoscopy was done to all patients to exclude other pathology in the anus and rectum.

Patients were randomized into two groups; group (A) treated by open haemorrhoidectomy according to Milligan –Morgan[10] (no.=100), and group (B) treated by 30 watts diathermy haemorrhoidectomy with closure of haemorrhoidectomy wound (no=80).

Patients prepared for operation with enemas and the operation was conducted under general anaesthesia. Postoperative care consisted of laxatives, metronidazole and analgesics. The two groups were compared regarding the magnitude of postoperative pain, duration of inpatient stay, time needed for complete healing of wounds, return to working activities and postoperative complications. Patients were evaluated in intervals of 1week, 4weeks and 3 months postoperatively. Persistent symptoms of haemorrhoid, bleeding and patient dissatisfaction denoted failure. The pain was measured according to it's intensity and to the type and frequency of administration of postoperative analgesia.

Four scores were used:

Score 0: no pain = patient didn't require analgesia.

Score 1: mild pain = patient needed oral analgesia (diclofenac sodium 25 mg t.i.d).

Score 2: moderate pain = patient needed more than single dose of 75 mg of diclofenac sodium intramuscularly.

Score 3: severe pain = patient needed narcotic analgesia.

Data were analyzed statistically for all the items using student t-test .

Surgical technique:

Under general anesthesia, the patient was put in lithotomy position. Anal dilatation was performed. The haemorrhoids were hold at the muco-cutaneous junction by an artery forceps. Ferguson anal retractor was then inserted to display the full extent of the haemorrhoid.

Diathermy dissection was accomplished using Valleylab diathermy machine model force-40 with Valleylab E2555 reusable monopolar hands witching pencil containing 3 mm blade, the power was set at 30 watts. The haemorrhoids were dissected by diathermy from muco-cutaneous junction up to the level of vascular pedicle, the pedicle was then transfixed by gauge 0 chromic catgut, ligated and excised by scissors. The raw area of haemorrhoidectomy wound was closed by suturing the remaining part of the pedicle to the muco-cutaneous junction by gauge 2/0 chromic catgut. Anal pack was not used, but gauze supported by plaster was applied to the anal verge.

Results

Over 34 months period, 180 patients with symptomatic third and fourth degree haemorrhoids (122 males, 58

females) were randomized to either open haemorrhoidectomy group– A (n=100) or diathermy haemorrhoidectomy with haemorrhoidectomy wound closure group B (n=80). The age of patients in both groups ranged between 18-74 years.

The postoperative hospital stay was significantly different in the two groups ($p<.005$). The mean hospital stay was 3 days in groups A (range: 2-6 days), while in group B it was 1 day (range: 1-2 days). Patients in group A resumed normal activities after a mean of 14 days (range: 10-18 days), while patients in group B return to activity after 7 days (range: 6-8 days) which is statistically significant.

Significant differences between the two groups were noticed regarding the time needed for healing of haemorr-hoidectomy wound. In group A, it was 15-28 days, while in group B was 6-10 days as shown in Table I.

There was clear difference regarding postoperative pain amongst both groups: In group A, on the day one (day of operation), 30patients(30%) experienced mild pain, 50 patients (50%) had moderate pain, while the remaining patients (20%) had severe pain. In group B, 50 patients (62.5%) had mild pain, 25 patients (31.25%) experienced moderate pain and only 5 patients (6.25%) had severe pain. On the day two, 70 patients (70%) in group A had mild pain,27 patients (27%)experienced moderate pain and only three(3%) had severe pain, while in group B, 45 patients(56.25%) are free of pain and 30 patients(37.5%) had complaining of mild pain, the remaining three(6.25%) of the cases had moderate pain. On day three, 10 patients in group A had mild pain and one had moderate pain while in group B only one patient had mild pain as shown in Table II.

Postoperative complications such as bleeding, urine retention and stricture which was noticed in some of the cases of group A was not evident in any of the cases of group B (Table III).

Table I. Details of patients participating in this study

	Group A		Group B	
	Range	**Mean**	**Range**	**Mean**
Hospital stay	2-6 days	3	1-2 days	1
Return to normal activity	10-18 days	14	6-8 days	7
Healing time	15-28 days	21	6-10 days	8

Table II. Pain and Analgesia reguired in both groups

Analgesia	**No pain**		**Oral diclofenac**		**Injectable diclofenac**		**Narcotic analgesia**	
	Group A	**Group B**	**Group A**	**Group B**	**Group A**	**Group B**	**Group A**	**Group B**
Day 1	0	0	30	50	50	25	20	5
Day 2	0	45	70	30	27	5	3	0
Day 3	89	79	10	1	1	0	0	0

Table III. Postoperative Complications in both groups.

Bleeding		**Urine Retention**		**Stricture**	
Group A	**Group B**	**Group A**	**Group B**	**Group A**	**Group B**
3	0	5	0	1	0

Discussion

Postoperative pain is a major problem in choosing suitable operations for haemorrhoids. Many surgical techniques have been explored in an attempt to achieve an operation which has a more acceptable postoperative pain profile with minimal side effects[2-6, 10,11].

In this study, with regard to postoperative pain, the diathermy haemorrhoidectomy with wound closure (group B) offered significantly less painful alternative to open haemorr-hoidectomy (group A). This was particularly evident in regards to moderate and severe post operative anal pain in the 1st and 2nd postoperative days.This could be explained by; the use of an electrode delivering current, allows tissue cleavage without damage to surrounding area and subsequent healing of tissues with minimal scarring[8,9].This also explains the absence of post operative anal stricture in group B. Covering the raw area by primary closure of haemorrhoidectomy wound lead to reduce patient apprehension and therefore pain during the first bowel action , and it also leads to rapid healing and less fibrosis as noticed in group B . This is in favor of the early return to work and to absence of postoperative anal stricture and bleeding[3,12]. The omission of using anal packs in group B has lead to less postoperative anal pain and retention of urine [13].

A direct consequence of all these factors was a significantly shorter hospital stay and earlier return to normal activity.

In spite of using primary wound closure, we did not encounter any perianal abscess formation. Probably this was because of haemostasis produced by diathermy dissection.

The results of this study suggest that patient with symptomatic haemorrhoids derive greater benefit from diathermy haemorrhoidectomy with wound closure regarding less postoperative pain and complications, short hospital stay and early return to activity.

References

1. Thomson WHF. The nature of haemorrhoids. Br J Surg 1975; 62: 542-552.
2. Seow-Choen F. Stapled haemorrhoidectomy: Pain or gain. Br J Surg 2001;88: 1-3.
3. Ho YH, Seow-Choen F, Tan M, Leong AF. Randomized controlled trial of open and closed haemorrhoidectomy. Br J Surg 1997; 84: 1729-30.
4. Ingram M, Wright TA, Ingoldby JH. A Prospective randomized study of calcium alginate (sorbsan) versus standard gauze packing fol-lowing haemorrhoidectomy. J R Coll Surg Edin 1998; 43: 369-371.
5. Mathai V, Ong BC, Ho YH. Randomized controlled trial of lateral internal sphinctero-tomy with haemorrhoidec-tomy. Br J Surg 1996; 83: 380-2
6. Ho YH, Seow-Choen F, Low JY,Tam M, Leong AF. Randomized controlled trial of trimebutine (anal sphin-cter relaxant)for pain after haemorrhoidectomy. Br J Surg 1997;84:377-9
7. Ganio E, Altomare DF, Gabrielli F. Prospective randomized multicentre trial comparing stapled with open haemorrhoidectomy. Br J surg 2001; 88: 669-674.
8. Dixon AR, Watkin DFL. Electrosurgical skin incision versus conventional scalpel: a prospective trial. J R Coll Surg Edin 1990;35: 299-301.
9. Hussain SA, Hussain S. Incisions with knife or diathermy and postoperative pain. Br J Surg 1988; 75: 1179-80.
10. Milligan ETC, Morgan CN, Jones LE, Officer R. Surgical anatomy of anal canal and operative treatment of haemorrhoids. Lancet 1937; 11: 1119-1124.
11. Hosch SB, et al. Surgical treatment of

piles. Pros-pective randomized study of Parks versus Milligan Morgan haemorrhoidectomy. Dis Colon Rectum 1998; 41: 425-426.
12. Corono F, Muaore A, Mictrangelo M, Nigra I. Haemorrhoids and its therapy. Ann. Ital Gir 1995;60:813-816.
13. Baily HR, Ferquson JA. Prevention of urinary retention by fluid restriction following anorectal surgery. Dis Colon Rectum 1976; 19: 250-253.