

Haemorrhoidectomy: Ferguson's (closed) vs Milligan Morgan's technique (open)

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ABSTRACT

This study was done to compare the efficacy of closed Vs open haemorrhoidectomy. The study design was unblinded randomised control trial at Dhulikhel Hospital, Kathmandu University Hospital. Total number of patients was 56 all with 3rd and 4th degree haemorrhoids. Post operative pain was taken as main outcome measures. Operation time varied from 200 seconds for each haemorrhoidal cushion with open technique to 626 seconds by closed technique. The blood loss was not quantifiable in closed technique. Pain was scored on visual analogue scale. In closed group, the pain score was 4.9 immediate post operative period and 2.3 (24 hours later). In the other group, the scores were 7.8 and 6.9. These differences were significant. At the end of study we came to a conclusion that haemorrhoidectomy using closed technique has more advantages.

Keywords: Haemorrhoidectomy, Milligan-Morgan, vessel ligation, diathermy, postoperative pain, sphincterotomy, haemorrhoids.

INTRODUCTION

Haemorrhoidectomy has a bad reputation among patients and even among surgeons, as it is considered to be a painful operation. That is the reason why, over the years, non-surgical treatments have been developed, such as rubber band ligation,^{1,2} sclerotherapy,³ photocoagulation³ and cryotherapy.⁴ However, all these treatments have not proved to be as effective as surgery for third and fourth degree haemorrhoids.³ In Europe, the most common surgical technique is the one described by Milligan and Morgan,⁵ whereas in the United States, Ferguson's closed hemorrhoidectomy is the most popular one.⁶⁻⁸

The last two techniques both open and closed are well known technique with advantages and disadvantages of one over the other.⁹⁻¹¹ We have tested both these technique in our institute. We think it is important to compare both the techniques in our institute setup and in our population with the aim of minimizing the disadvantages of operations, such as postoperative pain and other complications. We report our experience of open Technique of Milligan and Morgan's operation, with that of closed Ferguson's technique.

PATIENTS AND METHODS

We operated on a total of 56 patients, from January 2007 to December 2008. All these patients had third and fourth degree hemorrhoids (26 with third degree and 30 with fourth degree), which were causing symptoms and for which conservative methods had failed. The patients were randomly allocated to be operated on by the closed method of Ferguson's or by the open operation of

Milligan and Morgan. Randomization allocation was by alternate patients, so that the 1st, 3rd, 5th and so on patients had the closed operation whereas the second, fourth, sixth and so on had the open operation.

This resulted in 28 patients being operated on by each technique.

Out of the 56 patients, 33 were men and 23 women, and the mean age was 50 years. 32 had hemorrhoids in the three hemorrhoidal cushions, 15 in two cushions, and a single cushion was affected in the other 9 patients. The same surgeon, with experience in hemorrhoidal surgery, did all the operations.

Operations were done under spinal anesthesia, and the patients were in the lithotomy position. We dilated the anus, but did not use loco regional anesthetic blocks. In 28 patients we used the open technique. The skin incision was made on the mucocutaneous border. We ligated the hemorrhoidal pedicle. The mucosa was closed with 3/0 vicryl once hemostasis was attained. Anal canal packing was done.

In the other 28 cases we did the Milligan and Morgan's operation, making a high ligation of the vascular pedicle with re-absorbable suture thread. Diathermy was used in all the cases, which explains the minimum blood loss. These wounds were left open. The anal canal was plugged.

The time for each haemorrhoidal cushion was calculated by dividing the total time since the surgical procedure itself started (that is, once the haemorrhoidal cushion was exposed) into the number of affected cushions.

Significance of differences was assessed with Student's *t* test. Probabilities of less than <0.01 were considered significant. Data are expressed as mean (SD).

RESULTS

Operating times varied from the mean 200 seconds (40) for each haemorrhoidal cushion with open technique to the 626 seconds (128) for each cushion when the closed technique was used. The difference was significant ($p < 0.01$). The blood loss was not quantifiable in those patients operated with closed technique, whereas in the other patients there was a mean blood loss of 10 ml. Pedicle ligation was achieved without failure in all patients. There were no intraoperative complications. Analgesia was prescribed for all of the patients. It was a simple analgesic (diclofenac). Patients operated on by the open method needed a mean measure of 9.2 (1.6) pills, and the closed technique needed only 4.2 (1.8) pills. The difference was significant ($p < 0.01$).

Pain was scored on a visual analogue scale from 0 to 10, in the immediate postoperative period and 24 hours later. In the closed group the mean scores were 4.9 (0.7) (immediate postoperative period) and 2.3 (0.8) (24 hours later). In the open group the mean scores were 7.8 (0.7) and 6.9 (0.8). These differences were significant. All the patients stayed in hospital for 48 hours, except five who had had open operations.

There were no postoperative complications in the 28 patients of the closed group. In the other group, 5 patients had persistent pain with a prolonged hospital stay. One month and six months later the patients were seen at the outpatient department.

At the first appointment, one month later, the pain scores were 2.1 in the closed group and 3.1 in the open group. The differences were not significant. We found differences in wound healing: the closed group healed better than the open group.

Six months later, 3 patients in the Milligan and Morgan group had slight discomfort in the perianal region. It was not necessary to prescribe any drug. There were no complications in the wounds in any case.

DISCUSSION

There are various operations for haemorrhoids such as those described by Parks,¹² Ferguson⁶ and Milligan and Morgan.⁵ The last one (Milligan-Morgan) was described in 1937 and remains the most popular one in Europe. However, some variants of this technique have been developed, such as the use of diathermy without ligation,¹ the addition of lateral internal sphincterotomy¹³ and the use of laser.¹⁴ Recently the use of mechanical circular staples¹⁵ has been described.

There are many reports on advantages of closed over open technique for the treatment of haemorrhoids such as less blood loss, less pain and better post operative outcome (6,12).

We also found important advantages in using the closed technique of Ferguson over Milligan-Morgan's technique. These included less pain in the immediate postoperative period and 24 hours later, fewer pills needed to control the pain, —and a better and faster wound healing, one month later. But has disadvantage of longer operation time (statistically significant). The time difference is only few minutes (less than 10 minutes), which can be neglected as it didn't affect the post operative outcome.

In short, we think that the use of closed haemorrhoidectomy for the treatment of third and fourth degree haemorrhoids brings the advantage in our hospital set up and in our population.

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