A comparative study to evaluate milligan morgan hemorrhoidectomy versus pile suture method in management of haemorrhoids

Aditya*, Kuldeep Raj, P. N. Agarwal, Md Abu Nasar

INTRODUCTION

Haemorrhoids are by far one of the commonest afflictions for surgeon consultations in the present times. Worldwide, the overall prevalence of hemorrhoids in the general population is estimated to be 4.4%. The management of haemorrhoids is multivariate out of which Milligan Morgan Open Hemorrhoidectomy is commonly used procedure but, it is associated with many complications such as prolonged post operative pain, increased hospital stay and increased time taken to return to routine work. The surgical technique for hemorrhoidectomy has been modified in an attempt to lessen postoperative complications and allow earlier patient discharge. Therefore less invasive techniques such as band ligation, injection, sclerotherapy, radiofrequency ablation and staplers hemorrhoidopexy were introduced. These are less destructive but cost and availability outcast them too. In 1978 Farag introduced the pile suture technique for the treatment of hemorrhoids which he reported to give better clinical impact than the conventional ligation and...
excision technique. However, the functional outcome of this technique in comparison to the standard ligation excision has not yet been established in comparison to the standard ligation excision.

The present study was done to compare the two modalities namely pile suture and conventional Milligan Morgan haemorrhoidectomy in terms of imparting better outcome by comparing various parameters such as Pain in the post-operative period, Rate of recurrence, incidences of bleeding in the post-surgical stage, the stay duration and time is taken by the patient to resume regular daily routine.

METHODS

This randomized prospective analytical study was conducted in the department of surgery from October 2018 to March 2020 at SGT Medical College, Hospital and Research Institute, Gurugram after clearance from the institutional ethics committee. The study included 60 adult patients of either sex with grade III or grade IV hemorrhoids, which were divided randomly using computer generated randomization sequence into two groups. Group A patient underwent conventional Milligan morgan hemorrhoidectomy and Group B patients underwent Pile Suture method with 30 patients in each group. Patients of other anorectal complaints, were excluded .Sample size was based on the previous OPD/IPD records of 3 years.

In pile suture method hemorrhoid is held with tissue force and pulled down in which three interrupted sutures, using vicryl 3-0 placed first at the base, second at the distal end and the third suture was placed between the two to occlude the superior hemorrhoidal vessel. Milligan Morgan hemorrhoidectomy was done by conventional ligation and excision technique. The patients were followed up till 6 months for the assessment of postoperative parameters-pain score, bleeding and recurrence.

Statistical analysis

All data was entered into a spreadsheet (Excel, Microsoft corp.) and then transferred to statistical software, SPSS version 21 for data analysis. Chi square test was used to compare continuous variables and Mann Whitney test was used to compare medians.

RESULTS

A total of 60 patients agreed to be a part of the study 30 in each group. The majority of the patients presented with bleeding and prolapse as their main complaint. Table 1 summarizes the patients’ profile. The mean age in pile suture (44.33 years Vs 42.77 years in open) difference between the 2 groups was not statistically significant. Men were more commonly affected by grade III and IV hemorrhoids. The difference in the pattern of distribution of grade of haemorrhoids among two group was not found significant. Constipation was found in 66.6% of patients in the pile suture group versus 80 % patients in the open group. The intraoperative and postoperative parameters evaluated in the 2 groups are presented in Table 2. The mean operative time was significantly less in the pile suture group (i.e., 20.10 minutes as compared with 51.47 minutes in the open group). The pain scores were significantly lower in the pile suture group .The hospital stay and absence from work or routine activities was shorter in the pile suture group.

Table 1: Patient profile.

|          | Pile Suture(%) | MM(%) |
|----------|---------------|-------|
| Mean age in years | 44.33 | 42.77 |
| Sex | | |
| Male | 80 | 60 |
| Female | 10 | 40 |
| Grading | | |
| Grade III | 60 | 43.3 |
| Grade IV | 40 | 56.7 |
| Chief complaint | | |
| Bleeding | 100 | 100 |
| Prolapse | 100 | 100 |
| Constipation | 66.6 | 80 |

Table 2: Results.

|                  | Pile Suture % | MM % | p value |
|------------------|---------------|------|---------|
| Post op bleeding |               |      |         |
| 1month           | 10            | 23.3 | 0.2     |
| 3month           | 3.3           | 0    |         |
| 6month           | 6.6           | 3.3  | 0.2     |
| VAS Pain score   |               |      | <0.001  |
| Day 1            | 5.7           | 8.73 |         |
| Day 3            | 5.0           | 6.0  | <0.001  |
| Day 7            | 2.73          | 4.30 | <0.001  |
| Day 15           | 1.0           | 2.10 | <0.001  |
| Day 30           | 0.0           | 0.03 | 0.3     |
| Day 90           | 0.0           | 0    |         |
| Day 180          | 0             | Mean |         |
| time Return to Work(days) | 7.33 | 16.8 | <0.001 |
| Mean Operative Time(mins) | 20.10 | 51.47 | <0.001 |
| Duration of hospital stays (days) | 4 | 6.6 | <0.001 |
| Recurrence       |               |      |         |
| Up to 6 month    | 5             | 1.7  | 1.0     |

DISCUSSION

Overall mean age group among patients undergoing surgical treatment of hemorrhoids was found to be 44.3 ±15.2 years.
In Milligan Morgan hemorrhoidectomy group, mean the age was 42.77±14.77 years while in pile suture method, patients presented at mean the age of 44.33±17.21 years. The difference in mean age of presentation could be different in different studies and it is attributed to the dietary habits and lifestyle of the study population and may be variable, depending upon the geographical location chosen for the study.

In the present study, the maximum numbers of patients were males 42 with only 18 females. The male to female ratio was 7.3. Other studies conducted by Elshazly et al and Saxena et al also showed male predominance. In the present study mean operating time in Milligan Morgan hemorrhoidectomy was 51.47 ±8.16 minutes and in Pile suture group, it was 20.10±5.64 minutes. There was a significant reduction in the mean operating time (p-value = <0.001). The mean operating time in the other studies was variable but pile suture method was invariably associated with less time. The variation in the mean operating time is attributable to the skills of the surgeon, the number of haemorrhoids operated and associated intraoperative complications.

In the present study, postoperative pain was assessed with the help of Visual Analog Score. Mean VAS score on Day 1 in Milligan Morgan group was 8.73±0.98 while in Pile suture group, it was 5.7±1.37. The mean VAS score was significantly greater in the Milligan Morgan group (p=<0.01). The Difference in mean VAS score was statistically significant till day-15. In the study conducted by Elshazly et al, the mean VAS score was significantly higher till day-30 in Milligan Morgan group. In a study by Jassim mohmmed showed less post-operative pain in PS method.

The low pain score associated with pile ligation can be explained by the placement of sutures in the non-sensitive anal mucosa above the dentate line, whereas in open hemorrhoidectomy pain attributable to thermal effect of diathermy, presence of wounds in the sensitive anal mucosa, more anal spasm and aggravated by defeication. The present study shows mean post-operative hospital stay of 6.67±1.03 days in Milligan Morgan group whereas it was significantly lower in Pile suture group 4.0±0.83 days (p value =<0.001).

Dubey et al reported mean hospital stay of 4 to 5 days in Milligan Morgan group and 3-4 days in pile suture group. In study by Hussein et al mean hospital stay in days were 7.4 days in case of Milligan Morgan group and 3.5 days in case of pile suture method. In the present study, the mean time to return to work in Milligan Morgan was16.78 ± 2.37 days and 7.33 ±1.12 days in Pile suture group. Elshazly et al reported time to return to work 23.5±10.8 days in Milligan Morgan group and 12.5±5.4 days in pile suture group. Hussein et al reported mean time to return to work 22.3 days in Milligan Morgan and 8.3 days in pile suture group. Thus it is observed that patients undergoing pile suture ligation were able to return to work earlier than Milligan Morgan hemorrhoidectomy group. Most common postoperative complication observed post hemorrhoidectomy is bleeding. In the present study, maximum postoperative bleeding was observed within the first month of surgery irrespective of the method of surgery. However, Milligan Morgan was associated with more number of patients reporting postoperative bleeding (23.3%) whereas only 10% reported bleeding in pile suture group within the first month of surgery. 2 patients (6.6%) reported bleeding within 3-6 months in pile suture group whereas only one patient reported bleeding within 3-6 months in Milligan Morgan group, which is associated with recurrence. In the study carried out by Elshazly et al, only 8 patients reported postoperative bleeding in Milligan Morgan group while only 3 patients reported bleeding in pile suture group. Prasad et al reported postoperative bleeding in their study in 12 patients of Milligan Morgan group and only 5 patients in pile suture group. The study conducted by Dubey et al showed maximum postoperative bleeding in14.4% patients in Milligan Morgan group while in pile suture group 9.6% patients had postoperative bleeding. Hussein et al reported more cases of postoperative bleeding in Milligan Morgan group as compared to Pile suture group. Study conducted by Rehman et al also showed no exception. Of all the 60 patients included in the study, none of the patients reported recurrence within the first month. Only 1 patient reported recurrence in Pile suture group at 3 months. At 6 months, 1 patient presented with recurrence in Milligan Morgan group and 2 patients in Pile suture group. Elshazly et al also reported higher recurrence in pile suture group as compared to MilliganMorgan. Higher recurrence is seen in pile suture group because of development of collaterals or inadequate suture bite or initial learning curve. However, Prasad et al reported only 2 patients of long term recurrence in pile suture group but 12 patients in Milligan Morgan group. They had ligated the vessel which helps to prevent the recurrence in pile suture.

This study has several limitations. Our study mainly comprised of population coming from a limited demographic area conducted in a single centre with a small sample size. There is a need for a multicentric study covering larger population of different demographic area. Low adherence was a major limitation of study. It may be attributed to location of institute, long commute to hospital, inadequate support from family members and financial burden.

**CONCLUSION**

In conclusion, we can say that pile suture is a simple, safe, and effective method for treatment of hemorrhoids. It is less invasive, faster technique, causing less postoperative pain, with early return to routine work. Hence recommended safer alternative to Milligan Morgan hemorrhoidectomy.

**Funding: No funding sources**
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee of SGT Medical College, Hospital & Research Institute

REFERENCES

1. Sanchez C, Chinn BT. Hemorrhoids. Clin Colon Rectal Surg. 2011;24(1):5–13.
2. Sun Z, Migaly J. Review of Hemorrhoid Disease: Presentation and Management. Clin Colon Rectal Surg. 2016;29(1):22–9.
3. Sakr MF. LigaSure versus Milligan-Morgan hemorrhoidectomy: a prospective randomized clinical trial. Tech Coloproctol. 2010;14:13-7.
4. Nazir A, Fazulul Q. Comparative Study of Multiple Versus Single Rubber Band Ligation for Internal Hemorrhoids. JK Science. 2003;5:15-7.
5. Johanson JF, Rimm A. Optimal nonsurgical treatment of hemorrhoids: a comparative analysis of infrared coagulation, rubber band ligation, and injection sclerotherapy. Am J Gastroenterol. 1992;87:1600-6.
6. Fleshman J. Advanced technology in the management of hemorrhoids: stapling, laser, harmonic scalpel, and Liga-Sure. J Gastrointest Surg. 2002;6:299-301.
7. Bikhchandani J, Agarwal PN, Kant R, Malik VK. Randomized controlled trial to compare the early and mid-term results of stapled versus open hemorrhoidectomy. Ame J Surg. 2005;189(1):56–60.
8. Farag AE. Pile suture: a new technique for the treatment of haemorrhoids. Br J Surg. 1978;65:293-5.
9. Elshazly WG, Gazal AE, Madbouly K, Hussen A. Ligation anopexy versus hemorrhoidectomy in the treatment of second- and third-degree hemorrhoids. Tech Coloproctol. 2015;19:29–34.
10. Saxena P, Bhakuni YS. A prospective study on suture ligation of internal hemorrhoids without Doppler guidance for the treatment of symptomatic hemorrhoid disease. Int Surg J. 2017;4:671-6.
11. Al Taha JM. Early and Late Complications of Haemorrhoidal Artery Ligation Compared to Milligan Morgan Surgery. Ind J Pub Heal Research Develop. 2019;10(11).
12. Dubey V, Choudhary SK. Anal stretching and ligation technique for treatment of haemorrhoids. Int J Pharm Bio Sci. 2012;3:485-92.
13. Al-Tai AH, Ogailli RH. Assessment of hemorrhoids surgical intervention among 180 patients in Karbala city. Biochem Cell Arch. 2019;19:3231-4.
14. Prasad D, Patel S. Suture Hemorrhoidopexy VS Open Hemorrhoidectomy: Comparison of Post Operative Complications. Inter J Sci Res. 2020;9:71-6.
15. Rehman K, Javed MA, Mehmood K, Khawer A. A randomized trial to compare pile suturing with haemorrhoidectomy for treatment of third and fourth degree haemorrhoids. Pak Arm Forces Med J. 2010;60:2.

Cite this article as: Aditya, Raj K, Agarwal PN, Md Abu N. A comparative study to evaluate milligan morgan hemorrhoidectomy versus pile suture method in management of haemorrhoids. Int Surg J 2021;8:664-7.