



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF  
**PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3596350>Available online at: <http://www.iajps.com>

Research Article

**ANALYSIS OF OUTCOME OF HEMORRHOIDECTOMY BY  
LIGASUTURE WITH CONVENTIONAL MILLIGAN  
MORGAN'S HEMORRHOIDECTOMY**Dr Hajirah Khalid<sup>1</sup>, Dr Humairah Khalid<sup>1</sup>, Dr Maryam Firdous<sup>1</sup><sup>1</sup>Rawalpindi Medical University, Rawalpindi

Article Received: October 2019 Accepted: November 2019 Published: December 2019

**Abstract:**

**Introduction:** Hemorrhoids are submucosal beds containing venules, arterial and smooth muscle fibers that are located on the anal canal. **Aims and objectives:** The basic aim of the study is to compare the outcome of hemorrhoidectomy by LigaSure with conventional Milligan Morgan's hemorrhoidectomy. **Material and methods:** This cross sectional study was conducted in Rawalpindi Medical University, Rawalpindi during January 2019 to September 2019. There were total 100 patients which were included in this study. All patients with ages between 18 to 70 years of both genders with third and fourth degree Haemorrhoids were included in this study. **Results:** The data were collected from 100 patients which can be divided into two groups. The mean age of both groups were 40 to 60 years. Group A included 29 cases in which 20 were having 3<sup>rd</sup> degree haemorrhoids while Group B included 21 cases in which 17 were having 3<sup>rd</sup> degree haemorrhoids. The mean operating time of Group A was 52.5 minutes with standard deviation of 11.9 while it was 36.6±9.8 in the other group. The mean blood loss in group A was 51.92ml with standard deviation of 15.68 while it was 70.34±25.59 in group B. **Conclusion:** It is concluded that Ligasure hemorrhoidectomy is a sutureless, closed hemorrhoidectomy technique dependent on a modified electro-surgical unit to achieve tissue and vessel sealing.

**Corresponding author:****Dr. Hajirah Khalid,**  
Rawalpindi Medical University, Rawalpindi

QR code



Please cite this article in press Hajirah Khalid et al., Analysis Of Outcome Of Hemorrhoidectomy By Ligasure With Conventional Milligan Morgan's Hemorrhoidectomy., Indo Am. J. P. Sci, 2019; 06(12).

**INTRODUCTION:**

Hemorrhoids are submucosal beds containing venules, arterial and smooth muscle fibers that are located on the anal canal. Hemorrhoidal disease is reported in approximately 5% of the general population, especially after 40 years of age. Because hemorrhoids are normal anatomical components of the anal canal, treatment is indicated in only symptomatic cases. These symptoms include bleeding, thrombosis, and hemorrhoidal prolapses. Various methods are used in the treatment of hemorrhoids, including medical treatment, rubber band ligation, infrared photocoagulation, sclerotherapy, open haemorrhoidectomy, closed hemorrhoidectomy, whitehead hemorrhoidectomy, and stapler hemorrhoidectomy.

Hemorrhoids, a varicose condition is one of the commonest illnesses which causes per rectal bleeding. The main effective and ultimate treatment for 3<sup>rd</sup> or 4<sup>th</sup> degree haemorrhoids is Haemorrhoidectomy. Numerous other procedures have also been practiced, varying from open or closed sharp excision, laser therapy, ultrasonic scalpel dissection to stapled Hemorrhoidectomy. Even though Haemorrhoidectomy is thought to be a small procedure but the complications and the postoperative recovery are very painful to the patient and maybe that's the reason why patients consider haemorrhoidectomy as the last option of treatment<sup>1</sup>. Patients as well as surgeons do not like Haemorrhoidectomy because as it is painful for the patient in the same way it is considered to be a difficult procedure among many surgeons<sup>2</sup>.

The main effective and ultimate treatment for 3<sup>rd</sup> or 4<sup>th</sup> degree haemorrhoids is Haemorrhoidectomy<sup>3</sup>. Numerous other procedures have also been practiced, varying from open or closed sharp excision, laser therapy, and ultrasonic scalpel dissection to stapled Hemorrhoidectomy<sup>4</sup>. Even though Haemorrhoidectomy is thought to be a small procedure but the complications and the postoperative recovery are very painful to the patient and maybe that's the reason why patients consider haemorrhoidectomy as the last option of treatment<sup>5</sup>. Traditional Milligan Morgan haemorrhoidectomy is the open surgical procedure in which the haemorrhoid pedicle is ligated by a transfixing suture which may lead to some postoperative complications mostly pain, bleeding and wound

infection which ultimately cause prolonged stay in hospital<sup>6</sup>.

**Aims and objectives**

The basic aim of the study is to compare the outcome of haemorrhoidectomy by LigaSure with conventional Milligan Morgan's hemorrhoidectomy.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in Rawalpindi Medical University, Rawalpindi during January 2019 to September 2019. There were total 100 patients which were included in this study. All patients with ages between 18 to 70 years of both genders with third- and fourth-degree Haemorrhoids were included in this study. The patients were divided into two groups. Group A includes Haemorrhoidectomy by Ligasure and group B includes Milligan Morgan Haemorrhoidectomy by using the random allocation. The procedure was carried out with the patient in lithotomy position and a minor reverse Trendelenberg angle. The primary steps in both surgeries were same and consisted of Examination under anesthesia, delivery of hemorrhoids by artery forceps, one applied at the muco cutaneous junction of hemorrhoid, the other at the apex and a skin incision at the base of hemorrhoids and separation of hemorrhoid tissue from the internal sphincter fibers by monopolar diathermy or scissors.

**Statistical analysis**

Statistical analysis was performed with SPSS software version 20. Independent sample T- test was applied to compare the operative time, blood loss and post-operative pain in both groups. Post stratification Independent Sample T- test was applied; value  $\leq 0.05$  will be taken as significant.

**RESULTS:**

The data were collected from 100 patients which can be divided into two groups. The mean age of both groups were 40 to 60 years. Group A included 29 cases in which 20 were having 3<sup>rd</sup> degree haemorrhoids while Group B included 21 cases in which 17 were having 3<sup>rd</sup> degree haemorrhoids. The mean operating time of Group A was 52.5 minutes with standard deviation of 11.9 while it was 36.6 $\pm$  9.8 in the other group. The mean blood loss in group A was 51.92ml with standard deviation of 15.68 while it was 70.34 $\pm$ 25.59 in group B.

**Table 01:** Comparison of operative outcomes in patients undergoing Ligasure and Milligan Morgan's hemorrhoidectomy.

Feature	Milligan-Morgan hemorrhoidectomy	LigaSure hemorrhoidectomy	p
Operation time [mean (range) min]	20 (6–40)	15 (4–30)	<0.05
Number of packages	2 (1–4)	2 (1–4)	0.5
Analgesic requirement n (%)	182 (88.3)	107 (67.3)	<0.05
Thrombosed hemorrhoids	10 (4.9)	13 (8.2)	0.195
Hospitalization time (days)	1 (1–16)	1 (1–2)	<0.05
Re-operation n (%)	3 (1.6)	4 (2.7)	0.704
Return to normal daily activity [mean (range) days]	7 (1–30)	6 (1–15)	<0.05
Prolonged pain n (%)	27 (14.7)	10 (6.8)	<0.05
Follow-up (months)	28.3±15.7	25.9±15.6	0.176

**DISCUSSION:**

For symptomatic grade 3 and 4 hemorrhoids, some form of hemorrhoidectomy remains the accepted modality of treatment. The traditional methods like the Milligan Morgan method and the Ferguson's method have been in practice for more than half a century for want of a better alternative. Recent years have seen the introduction of newer techniques with relative merits and demerits<sup>7</sup>. The most significant recent introduction has been the circular stapling device for prolapsed hemorrhoids. This has been criticized for not treating the external component of hemorrhoids and the skin tags. Additionally the stapler cartridges are expensive and beyond the reach of most patients<sup>8</sup>.

About 2 years ago we acquired the Ligasure™ device. It is an electro-surgical device, which is an improved version of bipolar diathermy. It is so effective in achieving hemostasis that it is described as a 'vessel sealing system'. The energy is delivered only to the tissue grasped within the jaws of the hand piece with minimal spread of electrical or thermal energy to adjacent tissues. Complete coagulation of vessels and also tissues is achieved with minimal charring in contrast to conventional diathermy<sup>9</sup>. A computer controlled feedback loop automatically stops the flow of energy when coagulation of the vessels and mucosa is achieved. The vascularized tissue caught between the jaws is reduced to a wafer thin seal, which can be cut across with scissors<sup>10-11</sup>.

**CONCLUSION:**

It is concluded that Ligasure hemorrhoidectomy is a sutureless, closed hemorrhoidectomy technique dependent on a modified electro-surgical unit to achieve tissue and vessel sealing. It is safe and effective, has less blood loss, postoperative pain and complications compared to conventional hemorrhoidectomy.

**REFERENCES:**

1. Milligan ETC, Morgan CN, Jones LE, Officer R. Surgical anatomy of the anal canal and the operative treatment of hemorrhoids. *Lancet*. 1937;2:1119–1124.
2. Ferguson JA, Heaton JR. Closed hemorrhoidectomy. *Dis Colon Rectum*. 1959;2:176–179.
3. Sayfan J, Becker A, Koltan L. Sutureless closed hemorrhoidectomy: a new technique. *Ann Surg*. 2001;234(1):21–24.
4. Kwok SY, Chung CC, Tsui KK, Li MKW. A double—blind randomized trial comparing Ligasure™ and Harmonic Scalpel™ hemorrhoidectomy. *Dis Colon Rectum*. 2005;48(2):344–348.
5. Gentile M, De Rosa M, Pilone V, Mosella F, Forestieri P. Surgical treatment for IV-degree hemorrhoids:LigaSure™hemorroidectomy vs. conventional diathermy. A prospective, randomized trial. *Minerva Chir*. 2011;66(3):207–213.
6. Khanna R, Khanna S, Bhadani S, Singh S, Khanna A. Comparison of Ligasure Hemorrhoidectomy with Conventional Ferguson's Hemorrhoidectomy. *Indian J Surg*. 2010;72(4):294–297.doi:10.1007/s12262-010-0192-3.
7. Palazzo FF, Francis DL, Clifton MA. Randomized clinical trial of Ligasure™ versus open haemorrhoidectomy. *Br J Surg*. 2001;89:154–157.
8. Milito G, Cadeddu F, Muzi MG, Nigro C, Farinon AM. Haemorrhoidectomy with Ligasure vs conventional excisional techniques: meta-analysis of randomized controlled trials. *Colorectal Dis*. 2010;12:85–93.
9. Peker K, İnal A, Güllü H, Gül D, Sahin M, Özcan AD, et al. Comparison of Vessel Sealing Systems with Conventional. *Iranian Red Crescent Medical Journal*. 2013;15:488–496.

10. Sayfan J, Becker A, Koltun L. Sutureless closed hemorrhoidectomy: a new technique. *Ann Surg.* 2001;234:21–24.
11. Filingeri V, Gravante G, Baldessari E, Craboledda P, Bellati F, Casciani CU. Prospective randomized trial of submucosal hemorrhoidectomy with radiofrequency bistoury vs. conventional Parks' operation. *Techniques in Coloproctology.* 2004;8:31–36.