

COMPARISON BETWEEN LIGASURE™ ASSISTED HEMORRHOIDECTOMY AND MILLIGAN-MORGAN HEMORRHOIDECTOMY

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Introduction

Hemorrhoids are one of the most common anorectal disorders with a reported prevalence of 4.4% up to 36.4% of general population. The peak prevalence occurs between 45 and 65 years of age. The most common conventional surgical treatment are Milligan - Morgan (open) and Fergusons with electro-cautery hemorrhoidectomy (closed).

Compared with the scissors excision- ligation technique in Milligan-Morgan operation, diathermy and *LigaSure*™ were reported to have faster recovery and less pain.

The LigaSure™ Vessel Sealing System has been recently introduced as an instrument conceived to upgrade the conventional treatment of haemorrhoids: it consists of a bipolar electrothermal device which offers an optimised combination of pressure and radiofrequency, sealing blood vessels up to 7 mm in diameter and generating an energy tailored to the tissue impedance, with a thermal injury confined to 2 mm over the surgical site. This limited spread reduces anal spasm and allows to perform a bloodless haemorrhoidectomy with reduced postoperative pain and fast healing. Thus this operation can be recommended as the ideal technique because of the potential reduction in tissue trauma.

Aim of the work

The aim of the present work is to compare between LigaSure™ assisted hemorrhoidectomy and between Milligan-Morgan hemorrhoidectomy as regarding post operative pain, bleeding and hospital stay.

Subjects and Methods

Subjects: After approval of local ethics committee, all patients included in the study will be informed about the procedure and will sign an informed written consent before carrying the procedure.

This study will be concerned on 40 patients, in the gastrointestinal surgery unit, Alexandria main University Hospital presenting with grade 3 and grade 4 hemorrhoids.

Methods:

The 40 patients will be divided in to two equal groups by Prospective random sequential study:

The patients will be operated with LigaSure™ assisted hemorrhoidectomy.

The patients will be operated with conventional Milligan-Morgan.

Exclusion criteria:

Grade 1 hemorrhoids.

Grade 2 hemorrhoids.

Portal hypertension.

Inflammatory bowel disease.

Results

Table 1: Comparison between the studied groups according to operation time (minutes).

	Group I LSH (n=20)	Group II DH (n=20)	t	p
Operation Time (min)				
Min. – Max.	15.0 – 24.0	18.0 – 33.0	3.424	0.001*
Mean ± SD.	19.65 ± 3.17	24.05 ± 4.80		
Median (IQR)	20.0 (17.5 – 22.5)	24.50 (19.0 – 25.5)		

IQR: **Inter quartile range**

SD: **Standard deviation**

t: **Student t-test**

p: p value for comparing between the studied groups

*: Statistically significant at $p \leq 0.05$

Table 2: Comparison between the studied groups according to intraoperative bleeding using no. of small gauzes soaked with blood.

	Group I LSH (n=20)	Group II DH (n=20)	t	P
I.O Bleeding (No. of small gauzes)				
Min. – Max.	3.0 – 5.0	4.0 – 8.0	5.895*	<0.001*
Mean ± SD.	3.60 ± 0.75	5.75 ± 1.45		
Median (IQR)	3.0 (3.0 – 4.0)	5.50 (4.5 – 7.0)		

IQR: **Inter quartile range**

SD: **Standard deviation**

t: **Student t-test**

p: p value for comparing between the studied groups

*: Statistically significant at $p \leq 0.05$

Conclusion

- The LigaSure™ hemorrhoidectomy has advantages over Milligan morgan hemorrhoidectomy as regards operation time, intra-operative blood loss, hospital stay and immediate post operative pain