

Comparative Study between Conventional and Ligasure Hemorrhoidectomy

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ABSTRACT

Background: Hemorrhoids are common anorectal disorders. That presents with various manifestations; however, bleeding, pain, swelling, soilage and pruritis are the most common presenting symptoms. Each case should be treated individually according to its presentations, the severity of the condition and the degree of haemorrhoids. Commonly grade 1 and 2 respond well to conservative measures. Grade 3 and 4 haemorrhoids need intervention either office-based procedure or surgical operation. **Objective:** To compare between the two approaches for hemorrhoid surgery- conventional hemorrhoidectomy and Ligasure hemorrhoidectomy- in terms of operative time and intraoperative blood loss, as well as postoperative pain, hospital stay, healing process, bleeding, recurrence and anal stenosis. **Methods:** This study is a prospective randomized study that was conducted at Ain Shams University Hospitals, Ahmed Maher Teaching Hospital and other authorized hospitals under supervision of thesis supervisors comparing, between conventional and the new modality ligasure hemorrhoidectomy as regards intraoperative blood loss, operative time, postoperative pain, hospital stay and healing process. The study included thirty patients selected by the method of random sampling of patients with hemorrhoids. The 30 patients of the study were subjected into two groups. Group (A) included 15 patients that have been managed by conventional hemorrhoidectomy. Group (B) included another 15 patients that have been managed by ligasure hemorrhoidectomy. **Results:** The study results found that LigaSure hemorrhoidectomy, in comparison with conventional hemorrhoidectomy, had statistically significant less intraoperative blood loss as well as shorter operating time. The operating time in Ligasure was 13.13 ± 5.55 min.; however, in conventional procedure was 16.67 ± 4.88 min. with P value 0.075. There was a highly significant effect regarding postoperative pain control on the patients underwent Ligasure Haemorrhoidectomy throughout the first month follow-up as assessed by the numerical analogue pain scores, The P value was <0.01 . There was no statistically significant difference between Ligasure haemorrhoidectomy and conventional haemorrhoidectomy patients regarding post-operative hospital stay, healing process and complications. **Conclusion:** Ligasure haemorrhoidectomy, when compared with conventional haemorrhoidectomy, is simple, safe and effective treatment modality.

Keywords: Ligasure Hemorrhoidectomy

INTRODUCTION

Hemorrhoids are common anorectal disorders. HEMORRHOIDS term is derived from the Greek adjective meaning bleeding (haema=bleed, rhoos=flowing) and emphasises the most important symptom of this disease. The word PILE derived from Latin word "pila" meaning a ball can be applied to all patients presenting with this disease as every patient with this disease present with some sort of swelling. At least 50% of the people over the age of fifty have some degree of haemorrhoid formation⁽¹⁾

The hemorrhoidal cushions appear predictably in the right anterior, right posterior, and left lateral positions, although there may be

intervening secondary hemorrhoidal complexes⁽²⁾. On histopathological examination, changes seen in the hemorrhoidal cushions include abnormal venous dilatation, vascular thrombosis, degenerative process in the collagen fibers and fibro-elastic tissues, and distortion of the anal sub-epithelial muscle⁽³⁾.

One of the major pathophysiological feature of hemorrhoidal disease is shearing the fibro-elastic tissue. Straining causes engorgement of veins via blockade of venous return, which causes an increase in venous pressure. The lumen for stools to pass through narrows and the mucosa thins due to this stretching contributes to the degradation of supporting tissues in the anal cushions⁽⁴⁾.

All symptomatic piles definitely need surgical excision, especially when conservative measures or nonsurgical interventions failed to resolve the symptoms. Excision of piles whether surgically or by diathermy or even by stapler hemorrhoidopexy is usually indicated for symptomatic Grade 3 and 4 piles or when conservative measures failed for earlier grades of hemorrhoids or presence of concomitant chronic anal fissure or fistula⁽⁵⁾.

Excision of hemorrhoids is usually associated or results in severe and sometimes intolerable postoperative pain. Such pain remains the main concern which make some patients reluctant to perform hemorrhoidectomy⁽⁶⁾. Therefore, the search for less painful feasible, and effective alternative is still going on and still the main concern of many surgeons. Even when hemorrhoidectomy performed by diathermy using a monopolar cautery, still the pain is a well-known postoperative complication due to thermal spread and damage to nearby richly innervated tissue. Thus, limitation and minimizing the extent of thermal injury is expected to result in significant reduction of postoperative pain⁽⁷⁾.

The ideal new techniques should combine high safety and efficacy of the treatment with low postoperative pain and discomfort along with an effective cost⁽⁸⁾. The Ligasure system (High frequency electro-thermal vessel sealing system) is a recently introduced device. It applies a precise amount of energy to vessel walls while they are being held in tight apposition under pressure. Thermal changes are essentially confined to within-the-jaw tissue. The entire process takes 2 to 5 sec, depending on vessel size and included tissue⁽⁹⁾.

AIM OF THE WORK

This prospective study was designed to compare between the two approaches for hemorrhoid surgery- conventional hemorrhoidectomy and Ligasure hemorrhoidectomy- in terms of operative time and intraoperative blood loss, as well as postoperative pain, hospital stay, healing process, bleeding, recurrence and anal stenosis.

PATIENTS AND METHODS

This study is a prospective randomized study that was conducted at Ain Shams University Hospitals, Ahmed Maher Teaching Hospital and other authorized hospitals under supervision of thesis supervisors comparing, between conventional and the new modality ligasure hemorrhoidectomy as regards intraoperative blood loss, operative time, postoperative pain, hospital stay and healing process.

The study included thirty patients selected by the method of random sampling of patients with hemorrhoids. The 30 patients of the study were subjected into two groups. Group (A) included 15 patients that have been managed by conventional hemorrhoidectomy. Group (B) included another 15 patients that have been managed by ligasure hemorrhoidectomy.

The patients had been followed-up weekly for a month and then monthly for 8 months to evaluate healing process, ongoing symptoms and postoperative complications.

Thirty patients were included in the study according to the following criteria: Grade III hemorrhoids, grade IV hemorrhoids, and male and female patients within age range between 20 - 60 years.

Patients were excluded from the study according to the following criteria: Patients of Grade 1 and 2 hemorrhoids, those having other conditions like thrombosed hemorrhoids, and inflammatory bowel diseases, previous anorectal operation, patients with co-existing anal disease, and patients with bleeding tendency or on oral anticoagulant.

Type of Patients:

This was a prospective study that included 30 patients of 3rd or 4th degree hemorrhoids of age ranging twenty to sixty years old and from both sexes attending to the hospital. The patients were randomly allocated into two groups each included 15 patients, first group underwent conventional hemorrhoidectomy, the second group underwent hemorrhoidectomy by ligasure.

Study procedure:

All patients were subjected to preoperative, operative, and postoperative assessment:

1. **Preoperative:** the preoperative assessment included full history taking, clinical examination, which included general examination of the chest, heart, and abdomen, and local examination (per rectal examination) for detection of hemorrhoids and its grading.
Prepare the patient for surgery, by explaining to them what is the procedure, its risks and benefits and taking consents.
Patients should evacuate their colon using enema or laxative.
2. **Operative:** the operations were performed on the patients under spinal or general anesthesia and in lithotomy position as follows: group A: conventional hemorrhoidectomy; and group B: Ligasure hemorrhoidectomy. Operative time and blood loss were recorded in each case.
3. **Postoperative:** patients were followed up weekly for one month and then monthly for 8 months. Early postoperative follow-up included evaluation of postoperative pain, hospital stay and healing process. Pain score was evaluated by means of the numerical rating scale from 0 to 10, and postoperative bleeding was also assessed. Late follow-up of the patient for 6 months included postoperative anal stenosis and recurrence.

Conventional hemorrhoidectomy or Vessel sealing technique hemorrhoidectomy were performed respectively on the thirty patients who had grade 3 or grade 4 hemorrhoidal diseases. The details of the study were explained to all the patients included in the study. The patients signed informed consent forms.

The following items were monitored in both conventional and ligasure hemorrhoidectomy:

During operation

- Length of the procedure
- Blood loss

Postoperative

- Postoperative pain
- Wound healing
- Hemorrhage
- Recurrence
- Anal stenosis

Under regional (spinal) or general anesthesia, the patients were placed in the lithotomy position.

Group A

Underwent conventional hemorrhoidectomy (Milligan and Morgan). The procedure started by digital rectal examination and dilatation of anal sphincters followed by use of PRATT rectal speculum to expose the hemorrhoids. Then identification and grasping of pile masses by two pairs of long Kelly artery forceps. Examination under anesthesia was done. Then a V-shaped incision by the scalpel in the skin around the base of the hemorrhoid was followed by separation of hemorrhoid tissue from the internal sphincter fibers by monopolar diathermy or scissors with dissection in the sub-mucosal space to strip the entire hemorrhoid from its bed. The dissection was carried cranially to the pedicle, which was ligated with strong absorbable (vicryl 1-0) sutures and the distal part excised. Other hemorrhoids were similarly treated, leaving a skin bridge in-between to avoid stenosis. The wound was left open.

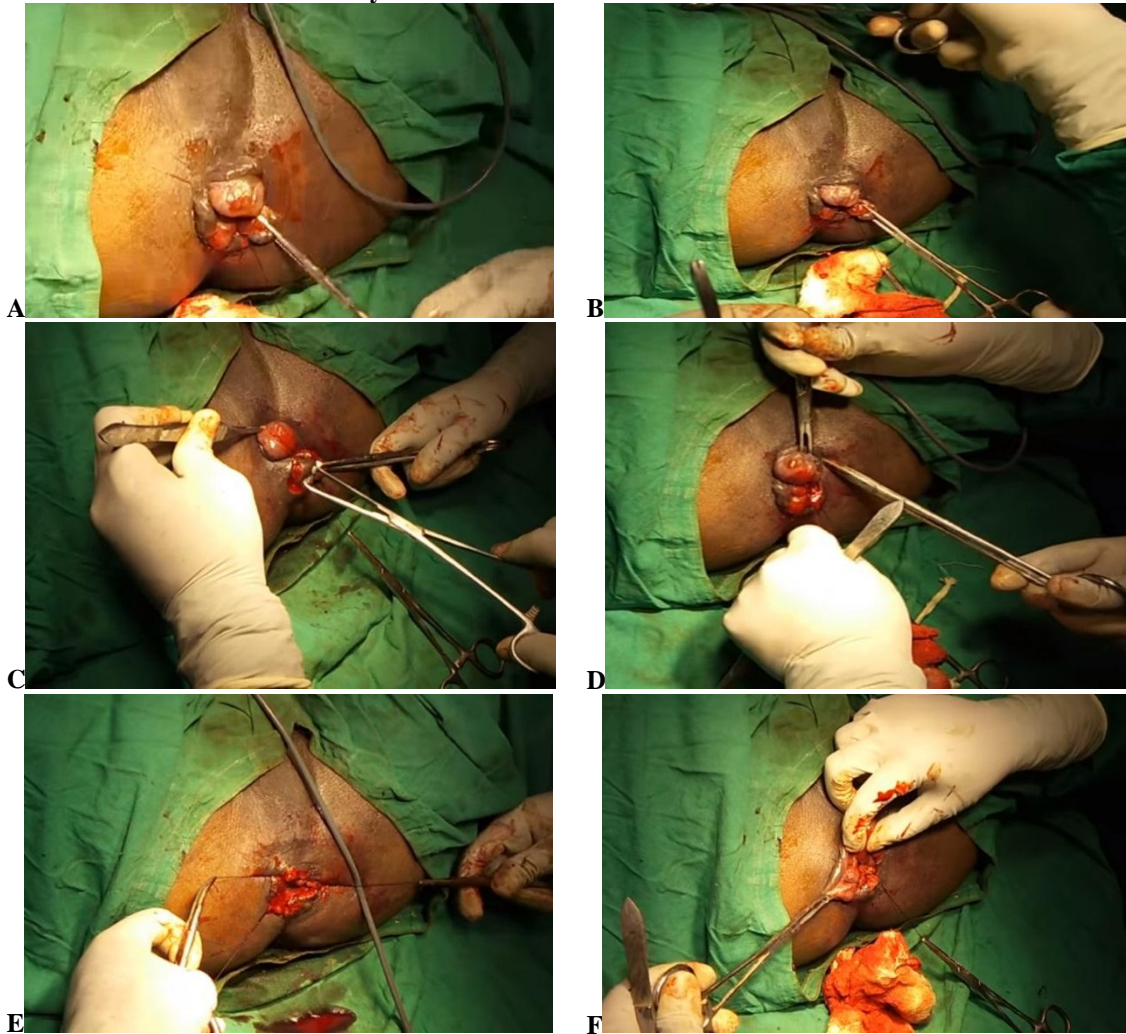
Conventional hemorrhoidectomy:

Fig. (1): A) Proper examination of the anal canal and exposure of the hemorrhoids. B) Grasping of the pile mass by Allis or long Kelly artery forceps. C) V-shaped skin incision at the base of the hemorrhoid and dissection until the hemorrhoidal pedicle. D) Ligation of the hemorrhoidal pedicle by strong absorbable suture. E) Excision of the distal part of the ligated hemorrhoid. F) Similar steps are done in the other hemorrhoids respecting skin bridges between the excised hemorrhoids to avoid anal stenosis.

Group B

Underwent ligasure hemorrhoidectomy, and similarly the procedure started by digital rectal examination and dilatation of anal sphincters followed by use of a PRATT rectal speculum to expose the hemorrhoids. The hemorrhoidal bundle was grasped and retracted. The device was applied 1-2 mm away from the

skin-mucosa junction. The hemorrhoid bundle resection started at the junction of the hemorrhoid and the flat perianal skin up to the base of the pedicle through a sub mucosal dissection and without transfixation. Povidone iodine ointment-soaked gauze was inserted into the anal canal after the surgery in both groups.

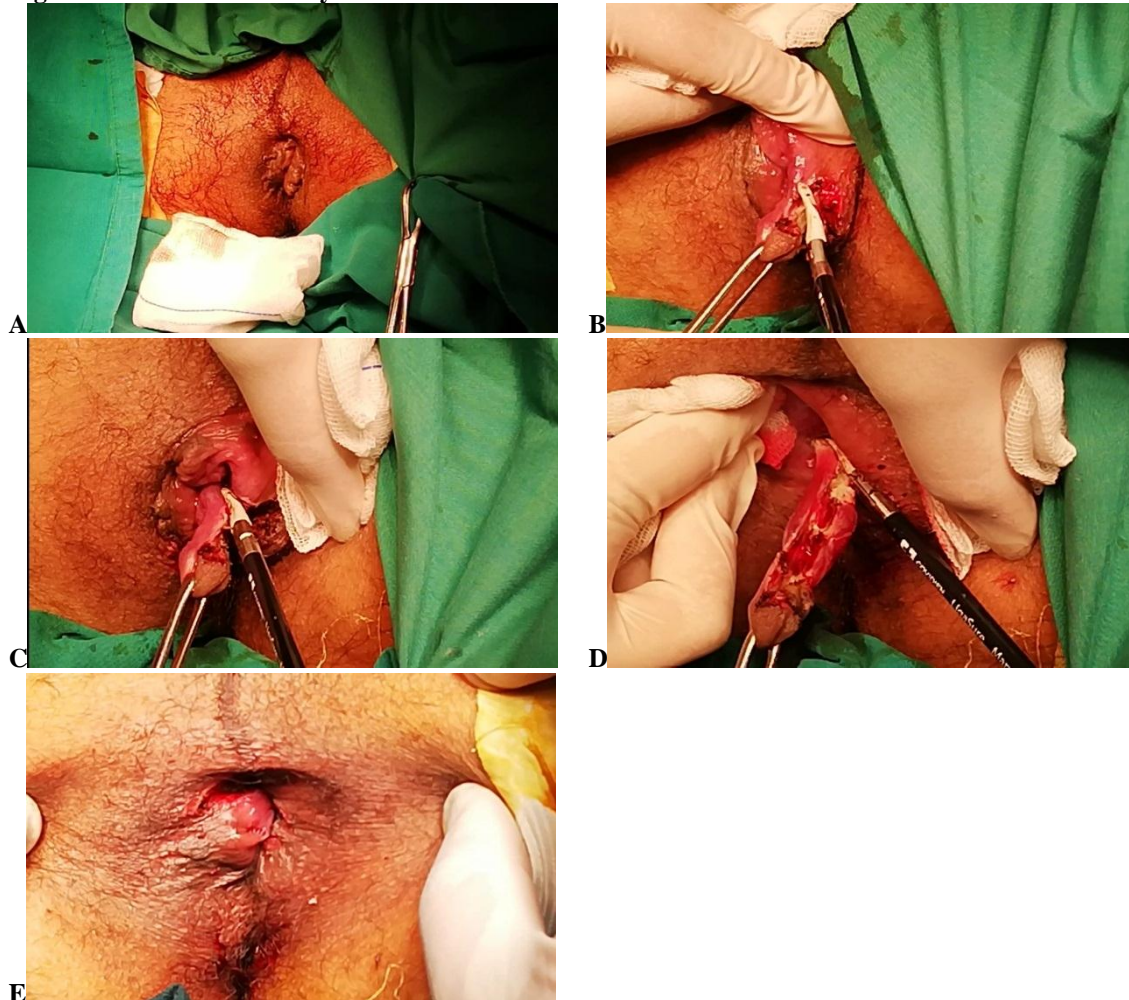
Ligasure hemorrhoidectomy:

Fig. (2): A) Proper examination of the anal canal and exposure of the hemorrhoids. B) The ligasure device is applied 1-2 mm away from the skin-mucosa junction. C) Ongoing dissection by the ligasure until the hemorrhoidal pedicle. D) Cutting of the hemorrhoidal pedicle by the ligasure without any sutures. E) Similar steps are done in the other hemorrhoids respecting skin bridges between the excised hemorrhoids to avoid anal stenosis.

After discharging the patients from the hospital, they were called for postoperative examination weekly for one month after surgery during the early postoperative period. To analyze the long-term outcomes, the patients were followed up at regular intervals and findings were noted using a specially prepared proforma.

Operative time in each procedure was recorded by estimating the time needed to finish the operation starting from the skin manipulation until complete excision of the targeted

hemorrhoids. Operative time was measured in minutes.

Intraoperatively, blood was monitored by using "Blood Loss Estimation Using Gauze Visual Analogue"

That was performed by estimating and recording the size and the number of the gauzes that were used in each procedure.

Post-operative pain was assessed by using the numerical rating scale as a scoring method. Patients were taught with a 10-point numerical

rating scale pain score from zero to ten. The patients were asked to record at home before bedtime their maximum pain score for the day.

The patients were discharged on the first postoperative day unless otherwise clinically indicated. All patients were asked to clean the wound doing sits bath twice daily. Patients had been followed up in the clinic weekly for a month after discharge.

Postoperative bleeding and late complications (anal stenosis and recurrence) were also traced and recorded during the follow-up period of 8 months.

Statistical Analysis

Data were collected, revised, coded and entered to the Statistical Package for Social Science (IBM SPSS) version 23. The quantitative data were presented as mean, standard deviations and ranges when their distribution found parametric. Also qualitative variables were presented as number and percentages. The comparison between groups regarding qualitative data was done by using *Chi-square test*. The comparison between two independent groups with quantitative data and parametric distribution were done by using *Independent t-test*. The confidence interval was set to 95% and the margin of error accepted was set to 5%.

RESULTS

Quantitative data was represented as mean, standard deviation, median and range. Data were analyzed using independent t-test to compare means of two groups. Qualitative data were presented as number and percentage and compared using Chi square test. Graphs were produced by using Excel. P-value is considered significant if it is less than 0.05. The study results included intraoperative blood loss, operative time, post-operative pain scoring according to numeric pain scale for both groups, healing process, postoperative bleeding, recurrence and anal stenosis.

Analysis of intra-operative blood loss and operative time:

Intra-operative blood loss was assessed according to "Blood Loss Estimation Using Gauze Visual Analogue".

Mean intra-operative blood loss for group A was 63.33 ml with a range of 25-100 ml, while in group B was 38.33 ml with a range of 25-100 ml. Data are shown in table (1).

As regards operative time, the mean operative time in group A was 16.67 minutes with a range of 10-25 minutes, while in group B was 13.13 minutes with a range of 10-25 minutes. Data are shown in table (1).

Table (1): Statistical analysis between Group A (conventional hemorrhoidectomy) and Group B (ligasure hemorrhoidectomy) regarding intraoperative blood loss and operative time

		Conventional Haemorrhoidectomy	Ligasure Haemorrhoidectomy	Test value*	P- value	Sig.
		No. = 15	No. = 15			
Age	Mean±SD	35.80 ± 8.69	36.73 ± 7.83	-0.309	0.760	NS
	Range	20 – 50	26 – 50			
Intraoperative bl. Loss (ml)	Mean±SD	63.33 ± 26.50	38.33 ± 22.89	2.765	0.010	S
	Range	25 – 100	25 – 100			
Duration of surgery (mins)	Mean±SD	16.67 ± 4.88	13.13 ± 5.55	1.851	0.075	NS
	Range	10 – 25	10 – 25			

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value < 0.01: highly significant (HS)

*: Independent t-test.

The Previous table shows that there was high statistically significant difference found between the two groups (A, B) regarding intra operative blood loss. Operative blood loss in group B was significantly less than group A (38.33 ± 22.89 ml in group B versus 63.33 ± 26.50 ml in group A, P value 0.010).

Results also found that in comparison with group A, group B had a shorter operating time (13.13 ± 5.55 min in group B versus 16.67 ± 4.88 min in group A, P value 0.075).

Pain scoring in the post-operative period:

Post-operative pain was assessed using numerical analogue scale (0-10) in weeks 1,2,3,4 following surgery.

Table (2): Statistical analysis of pain score in the post-operative period in both groups (A and B)

PO pain		Conventional Haemorrhoidectomy		Ligasure Haemorrhoidectomy		Test value*	P- value	Sig.
		No.=15		No.=15				
Wk 1 (PO)	Mean±SD	5.87 ± 1.36		4.80 ± 1.47		2.063	0.048	S
	Range	4 – 8		3 – 8				
Wk 2(PO)	Mean±SD	3.67 ± 1.18		1.33 ± 1.11		5.584	<0.001	HS
	Range	2 – 5		0 – 4				
Wk 3 (PO)	Mean±SD	1.60 ± 1.12		0.07 ± 0.26		5.161	<0.001	HS
	Range	0 – 3		0 – 1				
Wk 4 (PO)	Mean±SD	0.40 ± 0.51		0.00 ± 0.00		3.055	0.005	HS
	Range	0 – 1		0 – 0				

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value < 0.01: highly significant (HS)
Independent t-test

The previous table showed that there was high statistically significant difference found between the two groups (A, B) regarding postoperative pain score.

The numerical analogue pain scores to assess post-operative pain were less in group B than

group A with statistical significance through weeks 1,2,3,4 (P value <0.01).

Operative pain-stop

The previous Chart manifests the significant effect of Ligasure (Vessel Sealing System) in reducing the post – operative pain in comparison with the Conventional Haemorrhoidectomy.

Analysis of the post-operative wound healing and post-operative complications.

Table (3): Statistical analysis between both groups regarding postoperative wound healing and post-operative complications

		Conventional Haemorrhoidectomy		Ligasure Haemorrhoidectomy		Test value*	P- value	Sig.
		No.	%	No.	%			
Hge	No	13	86.7%	14	93.3%	0.370	0.543	NS
	Yes	2	13.3%	1	6.7%			
Stenosis	No	14	93.3%	14	93.3%	0.000	1.000	NS
	Yes	1	6.7%	1	6.7%			
Recurrence	No	13	86.7%	14	93.3%	0.370	0.543	NS
	Yes	2	13.3%	1	6.7%			
Postoperative healing	No	11	73.3%	12	80.0%	0.186	0.666	NS
	Yes	4	26.7%	3	20.0%			

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value < 0.01: highly significant (HS)

*: Chi-square test

In group A, 4 patients had bad healing representing 26.7% and 11 patients had good healing representing 73.3%. That is shown in table (3). While in group B, only 3 patient had bad healing representing 20 % and, 12 patients had good healing representing 93.3%. That is shown in table (3).

Therefore, no significant difference between the two groups as regards wound healing.

The results found that there was no significant statistical difference between the two groups (A, B) as regards postoperative recurrence. Despite that, there were 2 patients in the A group (conventional) had recurrence; while in the B

group (ligasure) only one patient had recurrence. One patient was managed surgically and the others were managed conservatively.

The results showed that there was no significant statistical difference between the two groups (A, B) as regards postoperative bleeding. Although, there were 2 patients in the A group (conventional) had postoperative minor bleeding; while in the B group (ligasure), one patient had postoperative bleeding. These patients were managed conservatively.

The results showed that there was no significant statistical difference between the two groups (A, B) as regards postoperative anal stenosis. Although, there was one patient in the A group (conventional) complicated by postoperative anal stenosis; as well as in the B group (ligasure). These patients were managed by anal dilatation.

DISCUSSION

In our study, in comparison with conventional method, Ligasure hemorrhoidectomy had a shorter operating time (13.13 ± 5.55 min versus 16.67 ± 4.88 , P value: 0.075) and had less intraoperative blood loss (38.33 ± 22.89 ml versus 63.33 ± 26.50 ml, p value: 0.010).

The numerical analogue pain scores to assess post-operative Pain were less in Ligasure than Conventional Hemorrhoidectomy with statistical significance in the post-operative period (weeks 1,2,3,4).

It is worth mentioning, the post-operative complications namely; bleeding and recurrence were less in group B (Ligasure haemorrhidectomy in comparison to group A (Conventional haemorrhoidectomy).

These findings were consistent with that obtained by Bakhtiar et al, who found that the mean operating time, mean blood loss, and overall pain score were less in that patient underwent hemorrhoidectomy by LigaSure technique⁽¹⁰⁾.

Similarly, in a comparative study of Ligasure versus conventional hemorrhoidectomy that was done in El-Mansoura University, As regards operative time, this study found a highly significant shorter operative time in the Ligasure group compared with the conventional group, Dr. Ghannam et al, concluded that the mean operative time for the LigaSure™ group was 11.22 minutes compared to 28.42 for conventional diathermy,

with a statistically significant difference ($P < 0.0001$). Blood loss was significantly less in Ligasure group than Conventional group. There was no difference in hospital stay since patients were discharged 24 ± 8 hours after the operation in both groups, and delayed discharge were noted in group 2 (second and third postoperative day) due to minor bleeding (2 cases) and acute urinary retention in one case. The overall incidence of complications was more in group II patient.

Pain: patients in the LigaSure™ group had a significantly lower pain score on the first day, continued daily until the seventh day, and second postoperative week compared with the conventional group. In the current group, all patients required NSAIDs injections and Pethidine three doses on the first postoperative day, while in the LigaSure™ group patients required NSAIDs in the same form and at the same dose as mentioned above and only twelve (19.35%) patients required three doses of petidine. The LigaSure™ group needed less amount of analgesics compared with the conventional group.

Wound healing was faster in the LigaSure™ group: mean was 15.24 ± 3.3 days (ranging from 10 to 21 days), versus 31.16 ± 6.7 days (ranging from 10-42 days) in the conventional group ($P = 0.001$) The overall incidence of complications was different between the two groups: 20 patients (37.3%) after conventional diathermy versus 5 patients (8.33%) in LigaSure™ group ($p = 0.004$)⁽¹¹⁾.

These findings were also similar to that of Noori⁽⁷⁾, who found that LigaSure hemorrhoidectomy was superior and more advantageous in terms of short operative time, minimum or even no blood loss, less postoperative pain, low complications rate, faster wound healing, and early return to work. During the follow-up, 6–9 months period of this study, late complications were traced and recorded. Anal stenosis developed in five patients (10.4%) in conventional group and three patients (6.25%) in LigaSure group. Recurrence of piles was not observed in any patient in both groups during the same follow-up period of this study. The surgical outcomes of LigaSure hemorrhoidectomy showed high patients satisfaction and low recurrence. LigaSure hemorrhoidectomy could be the gold standard procedure for all symptomatic piles to which other procedures are compared⁽⁷⁾.

Gentile et al. compared between LigaSure and conventional hemorrhoidectomy for IV degree hemorrhoids, and they showed that the LigaSure system is simple and more effective with short operating time, less postoperative pain score due to limited tissue damage, and free from pain earlier than those with conventional hemorrhoidectomy⁽¹²⁾.

Rahul Kaushik et al, The VAS pain scores to assess Post-operative Pain were lesser in group A (Table 4) than group B with statistically significance (6.33 ± 0.76 v/s 6.87 ± 0.73 , P value < 0.01) in the first day, (4.00 ± 0.64 v/s 4.80 ± 0.92 , P value < 0.001) in the third day, (2.23 ± 0.63 v/s 2.97 ± 0.89 , P value < 0.001) in the seventh day and (0.67 ± 0.66 v/s 1.57 ± 0.57 , P value < 0.001) in 14th day, comparable results were also seen in other studies.

As regard to the patient requirement of oral analgesic in first week, which was significantly less in group A as compare to group B (11.27 ± 1.08 v/s 12.77 ± 0.50 tab., P value < 0.001), comparable with other studies. Also significant difference was found between both groups and other studies as regard to requirement of IM analgesia in first week, which was less in group A (Table 5) than group B (4.37 ± 0.49 v/s 4.80 ± 0.76 inj., P value < 0.01).

There was a clear difference in regard to the time needed by the patient to return to work or normal activities, statistically significant less in group A (Table 6) as compare to group B (9.80 ± 1.42 versus 12.93 ± 2.72 days, P value < 0.001). Comparable results were met in other studies (A Comparative Study of Hemorrhoidectomy using Ligasure v/s Conventional⁽⁹⁾).

In another comparative study between Ligasure Hemorrhoidectomy and Conventional Hemorrhoidectomy, results found that the duration of surgery, per-operative bleeding and duration of stay in hospital were significantly less with Ligasure Hemorrhoidectomy when compared to conventional Hemorrhoidectomy. Also, postoperative pain and time taken to return to normal activity were almost similar in both methods. One patient in Ligasure Hemorrhoidectomy developed anal stenosis and needed operative intervention⁽¹⁾.

A comparative study between vessel sealing technique and conventional (Milligan Morgan) excisional hemorrhoidectomy done by Manoj

Kumar D. Ahire, Chetan M. Rathod showed that the mean operative time, blood loss, pain score and requirement of analgesia was significantly ($p < 0.05$) higher in patients treated with conventional Milligan Morgan hemorrhoidectomy (MMH) compared to vessel sealing (VS) method. The time for first bowel movement, length of hospital stay was longer in MMH group compared to VS group. The ability of patient to return to normal activities had taken significantly ($p < 0.05$) longer time in patients operated with conventional method compared to VS method. In conclusion, the vessel sealing technique for hemorrhoidectomy is a feasible and time saving technique for the surgeon and a comfortable procedure for the patient. Technically the Ligasure method is much simpler and can be safely and effectively carried out⁽¹³⁾.

CONCLUSION

Ligasure Hemorrhoidectomy is a sutureless hemorrhoidectomy technique dependent on a modified electrosurgical unit to achieve tissue and vessel sealing. It is safe and effective. In this study, compared with conventional excisional hemorrhoidectomy, LigaSure hemorrhoidectomy was superior and more advantageous in terms of short operative time, minimum blood loss, less postoperative pain, faster wound healing and less postoperative complications. The basic disadvantage with the LigaSure technique in our locality is its expensive cost but this disadvantage has been noted with all new techniques. Even though encouraging preliminary results of the studies are available about this new surgical technique with less number of complications but we need to do more prospective trials comparing the two groups of Ligasure to the conventional one with larger sample size and long term follow-up for recurrence to conclude its definite good efficacy, so that it will become a good option of treatment for third and fourth degree hemorrhoids. LigaSure hemorrhoidectomy could be the gold standard procedure for all symptomatic piles.

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