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Research Article

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Prospective Randomised Study Comparing Outcome Case of Hemorrhoids After LigaSure and Stapler

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Abstract

Aim: It has been shown that for the diathermy and scissor have harmful effect and complicated of pain that little with Harmonica and Ligasure in anal surgery especially hemorrhoidectomy ,so in this study we compare the LigaSure with this stapling debate.

Methods: 50 patients had 3rd to 4th degree piles were grouped to undergo LigaSure™ or stapling hemorrhoidopexy for piles hemorrhoidectomy. In zagazig university surgical department. Parameters investigated pain, satisfaction or residual and recurrence, also post operative course and analgesia

Results: Equal results in all most analyzed of both groups. Patient satisfaction (P value = 1), Postoperative pain scores (P value=0.99), and self activity satisfaction (P value = 0.99). No major difference except in investigations.

Conclusıon: Two methods cane be used safely in two groups.

Keywords: Technical handling; Hemorrhoidectomy; Patient work recovery.

Introductıon

Using the diathermy and dissector may be the cause of pain and harmful effect on the tissue henceforth the operation can be very painful [1-2] and take long time for healing and suffering upto more than 6 weeks [3]. This has initiated the surgeons to create or develop new techniques and modifications to decrease the pain and rapid recovery.

Operations with stapler has advantage of less operative pain and rapid recovery than the diathermy and scissor cutting hemorrhoidectomy or scissors cutting methods [4-11], but it is difficult to be used in fourth degree piles, and/or more skin appendages so, diathermy suitable for cutting without pain limitation [12]. and one of its disadvantage is recurrence.

Diathermy or LigaSur are not limited by amount of tissue so, both were used in patients with 4th degree piles or excess skin tag and little pain resuting both stapler and Ligasure than ordinary methods, the aim of this work is to determine ideal methods with little pain, easy techniquic application with advanced cases of piles.

Materials and Methods

We had 50 patients suffering from symptomatic 3rd and 4th degree piles in zagazig university surgical department. According to ethics in our study all patients were signed on ethics approval. Patients were divided to group 1 randomised to be operated by stapler for piles excision(hemorrhoidectomy) (group 1, n = 25) or group 2 by LigaSure™ technique for piles excision(hemorrhoidectomy) (group 2, n = 25). All subjected to the power test; standard deviation (SD) done in 20 patients of each group in mean pain score, with 80 % power at 5 % of the level were noticed differences.

For patient characteristics, refer to **Table 1**. 5 cases 4 of group (1), 1 of group (2) were removed as the follow up examinations couldn't be done as their accomodations are far from the hospital which is more than 30 km, remaining 5 were recruited.

Preoperative assessment

1.Full history

2.Examination including proctosigmoidoscopy.

3.Routine laboratory examination

According to finding proctosegmoidoscopy the procedure were done on a patients study from,

4.Unsuspected malignant mass or malignant ulcer, no differences in the distribution the hemorrhoid staging.

We used the Stapling as described before with the Proximate® PPH stapler, for residual prolapsing tissue or skin appendages. In 9 patients (36 %) the diathermy was used with stapler (**Table 2,3**). By Milligan-Morgan technique LigaSure™ hemorrhoidectomy was used. A small incision 2 cm was made at mucocutanous junction ;along the dermo-cutanous junction planes by LigaSure™ using the smaller instrument about (18cm). Six patients (24%) operated through this procedure and were proceeded to segmental plastic reconstruction if associated with prolapse piles (Fansler-Arnold). This procedure depending on skin and subcutaneous full thickness flab moving, to cover the defect with associated anal structure (rhomboid, trapezoid , con shape).

Operation time and intraoperative steps were detected on a questionnaire.

Table 1. Patient characteristics.

	LigaSure	Stapler
No.	25	25
Mean age	48(28-82)	11
Female	12	58 (40–71)

Routine postoperative analgesia eg. Diclofenac acid (3×50 mg) or ibuprofen (tid 400 mg) or Opiates in severe pain. Metronidazole 500mg tid tab were given. Patients were given routine laxative, during the hospital time and after discharge. Duration of pain and analgesic therapy were recorded during hospital time, from postoperative day 1 to 3weeks, the intentsity of pain is monitored ,their intake of analgesia, the recovery to personal activity percent, were recorded (0-100%), by visual analog scales from 0 to 10.

A follow-up was made up to six weeks including all history of pain (visual analog scale, 0-10) and level of personal activity (0-100%) all detected on a separate sheet patients, with a self good recovery.

At the end results, the duration of operating time was subjected to *T*-test , Pearson's chi- squared test, statistical software R1.9.1 (ISBN 3-900051-05-4) are expressed by mean, median, and range near, in all groups. Wil- coxon two-sample test used for Statistical significance done on every day basis, then the *P* values were recorded.

Results

No significant differences was detected after operation ($P = 0.19$). Significance in duration of operation found in the the six cases with combined anodermal flap plasty and LigaSure™ hemorrhoidectomy, as technical handling was little complicated in 12 % , 24 %, respectively ($P = 0.55$) (**Table 4**). In post- operative assessment, results (**Table 5**) were controlled by the releive satisfaction in 96 % of the cases in the LigaSure™ of which 88 % was in the stapler group ($P = 0.44$), take attention without favourable level of significant advantage.

In (**Table 6**) the course after all techniques were recorded, in terms of manner and timing of the first defecation. No significant differences in early operation l, complications, hospital duration time and analgesia was observed (**Table 7**). Median pain level scoring (**Figure 1**) and their near relationship between two groups and *P* value for two group after complete analyses is equal to 0.99. There was a tendency of the LigaSure™ patients preference. Mean patient satisfaction during the first 7 days ($P = 1$, **Figure 2**) and mean gain of personal recovery, activity and satisfaction ($P = 0.99$, **Figure 3**) were nearly the same in two groups.

Table 2. Hemorrhoidal staging and associated finding.

	LigaSure	Stapler
Piles	9	10
2nd to 3rd degree	13	14
3rd degree only	1	1
3rd to 4th. degree	2	1
4th. degree only		
Progress prolapse		
partial prolapse	15	10
complete prolapse	5	8
Skin appendage	7	10
Fissure	3	0
Itching	1	1

Table 3. Surgical procedures.

LigaSure	
Classic Milligan–Morgan	19
Additional procedure	
Plastic flab	6
Stapler	
Stapler	16
Another procedure	
Segmental Milligan–Morgan, or skin tags	9

Table 4. Immediate postoperative assessment of ease of handling by the surgeon.

	LigaSure™	Stapler
Simple	22 (88%)	19 (76%)
Slightly -awkward	2 (8%)	4 (16%)
Associated complication	1 (4%)	2 (8%)

P value = 0.5535.

Table 5. Operative time.

	LigaSure	Stapler
	23/26 (10–80)	20/21 (6–54)
Procedure	18/20 (10–37)	15/18 (6–40)
Combined procedure	40/44 (20–80)	25/25 (15–54)

Values are median/mean (range). *P* value = 0.1858.

Table 6. Postoperative course.

	LigaSure	Stapler
Early complication		
Urine retened	2(8%)	4(16%)
Ozzing blood	1(4%)	
All	3 (12%)	4 (16%)
Days: (mean range)	2/3 (1–5)	
First defecation		
Suppository/enema	6(24%)	8(42%)
Spontaneous	19 (76%)	17 (68%)
Hospital time		
Days: median	5/5 (2–10)	4/4 (2–10)

Table 7. Analgesic requirement.

Opiate	6 (24%)	8 (32%)
Morphia		1 (4%)
After discharge analgesia		
No	3 (12%)	2 (8%)
Panadol	1 (4%)	1 (4%)
Diclofenic A.	6 (24%)	5 (20%)
Tramadolic acid	2 (8%)	0
Mean time range	14 days	16 days
Metroametazole, ibrufen and tramadol taken for all patients during hospital stay		

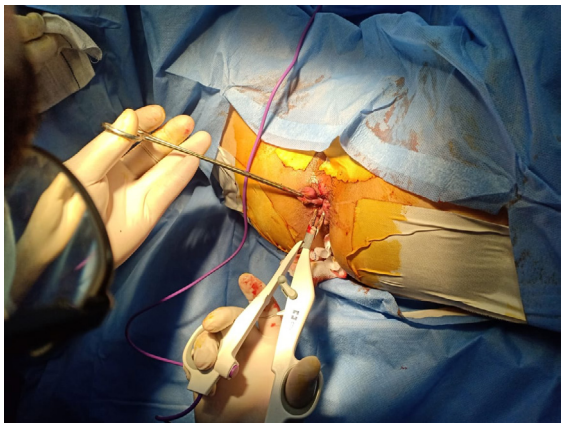

Figure 1. LigaSure using hemorrhoidectomy in 4th degree piles.

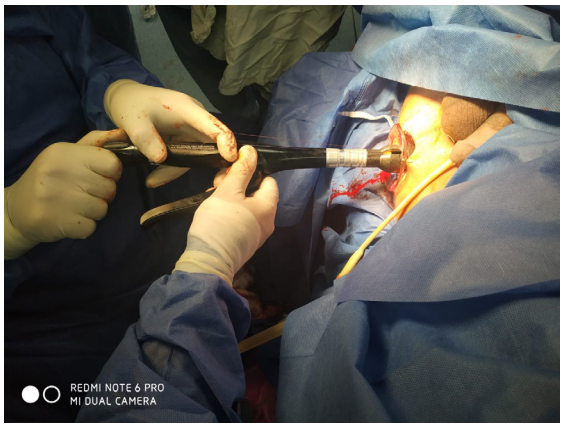

Figure 2. Stapler using in hemorrhoidectomy for 3rd degree piles.

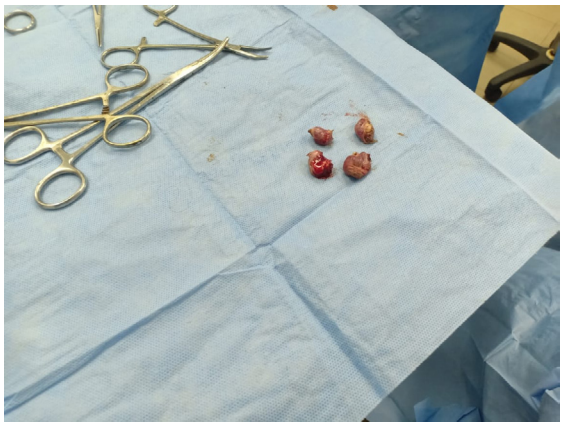

Figure 3. Piles after LigaSure hemorrhoidectomy.

Overall, the level of self recovery with treatment had no relation to the type of operative technique. The level of recover activity was clearly seen decreasing during the first few dayes up to 14 days, but the mean values increased gradually from 40 to 60 %. Mean of activity satisfaction levels of 80 % and above attained by the third week in the two groups, but at the six-week, no differences were found after follw up. In both groups, 84 % of patients had no complaints and any findings in examination. In 92% self recovery, with treatment still higher, and the level of recover activity was completely gained in most patients.

Discussion

Painful dissection, postoperative by diathermy or scissor by both LigaSure™ and stapler and alternatives proves in unselected patients with hemorrhoidal disease and postoperative good handling, less pain and good patients satisfaction [4-11, 13-16].

In fact, we found nearly postoperative pain level and patient self activity were same in two groups, but the investigations found that factors had no significant differences.

LigaSure™ is preferred in handling than stapler with respect to surgical equal of immediate postoperative result. The stapler apparent favorable in advanced cases (advanced fourth-degree piles). But LigaSure™ had favorable immediate relief than technical advantages of stapler and used only if more excision or skin or mucous tissue reconstruction, instead of painful diathermy (4th -degree piles).

So, Stapling is not eliminated and the main studies about stapler deal with these points. Some studies suspect that there are patients who are not suitable for stapling towards hemorrhoidal cases,but usually proved suitable coloproc- tologic service but are not suitable for daily using for these patients even for good easy grasping in 4th degree piles. By stapler remains difficult definition that fixed externally, so some prove the using of both stapler and surgry show good results and also used in the prolapsing and reducible piles(3rd degree) without any complications.

Both the methods are safe having their own advantages and disadvantages wuth good results and satisfaction in both treatment types (**Figure 2**). Irrespective of the operative method ther are manipulation in painful site. Nearly most patients recur activity without pain after inspection, 3 weeks later following the classic Milligan-Morgan-type technique which had 6 weeks compared to others methods of improvement median ranged degree of pain and personal self activity.

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