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Original article

Continuous versus Interrupted Cuff Closure in Laparoscopic Hysterectomy

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Abstract:

Background: When compared to abdominal and vaginal hysterectomy, total laparoscopic hysterectomy (TLH) is associated with a higher incidence of vaginal cuff dehiscence (VCD), a serious adverse event and occurs regarding to suture techniques so we compare between interrupted and continuous suture for vaginal cuff closure during TLH. **Aim:** To evaluate whether the use of continuous sutures for vaginal cuff closure during TLH reduced the surgical difficulty, suturing time and adverse events when compared to interrupted suture. **Methods:** This comparative study was conducted on 50 patients diagnosed with benign gynecological conditions with failed medical management or not amenable to medical management, they underwent total laparoscopic hysterectomy. Patients were divided randomly into two groups: group I: 25 patients who underwent total laparoscopic hysterectomy and using continuous running suture and group II: 25 patients who underwent total laparoscopic hysterectomy and using interrupted suture. **Results:** There was significant difference between both groups regarding to suturing time that was higher in interrupted group than continuous group. There was significant difference between both groups regarding to degree of surgical difficulty using VAS that was longer in interrupted group than continuous group. **Conclusion:** Continuous suture approach was safe, effective and well tolerated procedure that reduces operative times, suturing time and degree of surgical difficulty for TLH more than interrupted suture.

Keywords: Continuous, Interrupted, Cuff Closure, Laparoscopic Hysterectomy.

Introduction

The most common gynecological operation performed worldwide is the hysterectomy. This operation can be carried out via laparoscopic, vaginal, or abdominal access. In addition, single-port hysterectomy and robotically assisted laparoscopy have been developed recently (1).

In Pennsylvania in 1988, Harry Reich carried out the first laparoscopic

hysterectomy. Since then, it has been established that for benign gynecological disorders, laparoscopic hysterectomy is a safer option than standard surgery (2).

Compared to total abdominal hysterectomy (TAH), total laparoscopic hysterectomy (TLH) has several advantages, including less pain, a shorter recovery period, a shorter hospital stays, a quicker return to regular activities, and the avoidance of a significant abdominal scar (3).

Suturing the vaginal cuff is the last stage of TLH. A variety of procedures and sutures are available, depending on the surgeon's preference. It is possible to execute transvaginal cuff closure, interrupted or continuous suturing, and laparoscopic suturing using intracorporeal or extracorporeal procedures. Due to the complexity of laparoscopic suturing procedures, the closure of the vaginal cuff is the most challenging aspect of total laparoscopic hernias. Significant drawbacks of the procedure include the need for sophisticated surgical skills, a lengthy learning curve, and a time-consuming procedure. Due to TLH's technical challenges, surgeons stated in questionnaire research that they are conducting TLH less frequently than vaginal or abdominal hysterectomy (4).

The vaginal cuff closure following a total laparoscopic hysterectomy varies greatly in terms of the suturing method, technique, and materials used. The closure of the vaginal vault can be achieved by intracorporeal or transvaginal sutures, continuous or interrupted sutures, and knotted or unknotted stitches in single or double layers (5).

Conventional sutures are commonly employed, but they have the potential to become loose or entangled, necessitating continuous tugging by the operating surgeon or an aid. This can lead to tissue ripping and tool collision, which can delay the suturing process. Longer postoperative vaginal length, less granulation tissue since the vault borders are not everted into the vagina, and superior vault support thanks to the pericervical ring are just a few benefits of laparoscopic intracorporeal closure. In order to avoid vaginal vault dehiscence, laparoscopic knotting thought to be just as safe as traditional methods (6).

Following a hysterectomy, vaginal cuff dehiscence (VCD) is an unfavorable occurrence that may have serious consequences. Following a complete laparoscopic hysterectomy (TLH), the prevalence of VCD ranges from 0.3% to 3.1% (7).

High cuff dehiscence rates following endoscopic surgery have been attributed to non-compliant laparoscopic suture procedures, inability to close full thickness, and placing sutures too close to the operative site (<1 cm) as a result of the deceptive impact of laparoscopic magnification. It is advised to use double thickness closure, barbed-delayed sutures, or automatic suture devices to minimize cuff dehiscence (8).

Numerous research has recently investigated how different vaginal vault closure methods affect the prevalence of VCD following total laparoscopic surgery. A study was carried out the prospective investigation on this subject and discovered that knotted double-layer running sutures (0.8 and 1.6%, respectively) and laparoscopically sutured interrupted figures-of-eight did not differ from one another (9).

But when a study contrasted a barbed running suture with alternative laparoscopic suturing procedures, they discovered that the barbed suture group had no VCDs whereas the other closure methods had a VCD rate of 3.1%. Likewise documented a non-comparative cohort where a barbed suture was used to seal the vaginal cuff. It was discovered that 0.6% of the patients needed to have their vaginal cuffs sutured again (10).

Because barbed sutures include cutting barbs, tying is not necessary to achieve tensile strength. An increasing body of research indicates that barbed sutures are just as safe and well-tolerated as traditional sutures, and that using them during laparoscopic vaginal cuff closure shortens the duration of the procedure (11).

Therefore, this study aimed to evaluate whether the use of continuous sutures for vaginal cuff closure during TLH reduced the surgical difficulty, suturing time and adverse events when compared to interrupted suture.

Patients and Methods

This comparative study was conducted on 50 patients diagnosed with benign gynecological conditions with failed medical management or not amenable to medical management, they underwent total laparoscopic hysterectomy. They were selected from the Gynecology Department of Benha University Hospitals and a private Endoscopy Center. We got informed consent in writing from every participant from November 2023 till October 2024.

The patients were divided randomly into two groups: group I: 25 patients who underwent total laparoscopic hysterectomy and using continuous running suture and group II: 25 patients who underwent total laparoscopic hysterectomy and using interrupted suture.

Inclusion criteria included Participants were perimenopausal and postmenopausal women between the ages of 40 and 50 who had benign gynecological disease that required surgical intervention. These women had either failed medical management or were not amenable to medical management and qualified for hysterectomy.

Exclusion criteria included women who have benign uterine diseases that can be managed medically, women who have malignancies and infected masses, women who have medical conditions that could influence the choice to perform a particular type of hysterectomy, such as cardiac lesions,

and women who undergo any procedure where the vaginal cuff is sutured using a conventional open technique (such as after a Mini laparotomy or laparotomy conversion for specimen retrieval).

All patients underwent full history taking, complete general examination and routine laboratory investigations including (CBC, PT, PTT and INR, liver function tests, kidney function tests, fasting blood sugar, ABO, RH, HCV-A band HBS-Ag), gynecological ultrasound scanning and endometrial biopsy.

Approval code: MS 14-9-2022

After surgery:

The urinary catheter was taken out the next morning. The patient's hemoglobin level was assessed both prior to and on the first post-hysterectomy day. Following surgery, all patients were instructed to refrain from sexual activity for at least two months, to avoid lifting heavy weights for six weeks, and to follow up with a follow-up visit three months later. The doctors conducting the follow-up visits were blinded to the type of vaginal cuff closure used during the intervention and were not involved in the surgical procedures. It has been demonstrated that nearly all vaginal cuff dehiscence following TLH occur within two months of surgery, which is why the three-month follow-up period was selected (12). Furthermore, at three months, the suture material has reabsorption happened, making it nearly impossible to elicit the type of cuff closure that occurred even for highly skilled investigators.

TLH surgical technique

The patient was placed on supine position at the start of the procedure, all patients had regular catheterizations. Anesthesia was administered to all patients. Antibiotic prophylaxis was administered to the patients (cephalosporin was given after induction of anesthesia). Both the vagina and the abdomen were cleaned. After being draped, the patient was put in the Trendelenburg position. In most cases, a modified open method or a Veress needle was used for the peritoneum entry. Bipolar forceps, the Hohl uterine manipulator (Karl Storz GmbH, Tuttlingen, Germany), and the Clermont-Ferrand surgical approach were used (13). Menopausal individuals were advised to get bilateral salpingo-ophrectomy along with TLH.

After finishing technique: patients were divided into two groups:

Continuous running sutures group (Figure 1, 2): The vaginal cuff was sutured laparoscopically (running sutures with Vicryl suture in 1/0 on a 40-mm half-circle taper point needle, shortened to 25 cm for handling convenience). Similar to barbed sutures, a two-layer continuous running suture was inserted. Vicryl sutures are incapable of holding their tension, hence intracorporeal knotting and frequent retensioning of the suture especially with our 3-port laparoscopic system were necessary.

Interrupted sutures group (Figure 3): The laparoscopic suture technique was used to create an interrupted suture using Vicryl no. 0, which was the same size as the sutures used in the other group that were secured using intra-corporeal knotted knots. Full thicknesses bite, encompassing the vaginal mucosa and pubo-cervical fascia anteriorly and the vaginal perimucosa posteriorly, measuring around 1 centimeter, was achieved in each stitch.

The following data were recorded:

Intraoperatively: The two groups' mean suturing times for the closure cuff, which is the interval from the start of the first stitch and the cutting of the last stitch (6), were recorded and compared. During the procedure, the volume of blood lost during the suturing of the cuff was measured. The total blood loss in suction, gauzes, and drapes was used to compute the amount of blood lost. A visual analog scale (VAS) was used to rate the surgeon's perceived level of difficulty during surgery. The VAS ranged from 1 (low difficulty) to 10 (high difficulty) (6). The frequency of complications during surgery was recorded.

Postoperatively: The length of the hospital stay was recorded. The incidence of VCD by type of suture between the two groups was the main outcome. In order to pinpoint this consequence, the current study gathered further data from each of these individuals as a secondary goal. The aforementioned factors encompassed pre-dehiscence, dehiscence symptoms, an open peritoneum, evisceration (herniation), repair type, duration between TLH and dehiscence, pertinent accompanying complications, surgical indication, menopausal status, and the administration of prophylactic antibiotics during the hysterectomy (14).

Statistical Analysis:

Software from Graph Pad Prism version 5.0 (USA) and Microsoft Excel xp will be used for data analysis. The data with a normal distribution will be presented as mean ± SD. Using the independent t test, statistical comparisons between several groups will be conducted. The Mann Whitney test was used to assess non-parametric data. Frequency and percentage will be used to describe categorical data, and the chi square (X2) test will be used to compare them.

Results:

There was no significant difference between both groups regarding to demographic and baseline data. Also, there was no significant difference between both groups regarding to D&C (**Table 1**).

There was no significant difference between both groups regarding to ASA classification (**Table 2**).

There was significant difference between both groups regarding to suturing time that was higher in interrupted group than continuous group. While there was no significant

difference regarding to time of operation. Also, there was no significant difference between both groups regarding to TLH with bilateral salpingo-ophrectomy (**Table 3**).

There was significant difference between both groups regarding to degree of surgical difficulty using VAS that was longer in interrupted group than continuous group. Also, VCD (approved by feeling of intestine in vagina) was higher in continuous group (1 case without eviscerization) than interrupted group (1 case with eviscerization and the other case without) with no significant difference. Only 1 case (4%) in interrupted group complicated with major vaginal bleeding while none of patients in continuous group had major vaginal bleeding. Minor vaginal bleeding was higher in interrupted group (16%) compared to continuous group (8%) with no significant difference. Fever was higher in continuous group (12%) compared to interrupted group (4%) with no significant difference. Only one case (4%) in each group needed re-intervention due to sever bleeding. There was no significant difference between both groups regarding to length of hospital stays (days) (**Table 4**).

Table (1): Demographic, baseline preoperative data and Endometrial biopsy of the studied groups

Demographics	**Continuous (N=25)**	**Interrupted (N=25)**	**t/x²**	**P value**
Age (years)	46.3 ± 4.65	45.9 ± 3.93	0.32	0.74
BMI (kg/m²)	26.8 ± 2.49	26.12 ± 3.53	0.64	0.52
Postmenopausal	20 (80%)	18 (72%)	X^2= 0.43	0.5
Relevant comorbidities				
Diabetes Mellitus	5 (20%)	3 (12%)	X^2=0.67	0.71
Hypertension	3 (12%)	4 (16%)		
Previous abdominal surgery	7 (28%)	4 (16%)	X^2= 0.36	0.54
Diagnosis				
Endometrial hyperplasia	5 (20%)	7 (28%)		
Cervical dysplasia	5 (20%)	3 (12%)	X^2=1.98	0.57
Uterine fibroid	14 (56%)	12 (48%)		
Adenomyosis	1 (4%)	3 (12%)		
Endometrial biopsy				
D&C				
Yes	5 (20%)	7 (28%)	X^2=0.43	0.5
No	20 (80%)	18 (72%)		

Data are represented as Mean ± SD or number (%). Data are analyzed using independent t test or chi square (X^2)

Table (2): Classification of the studied groups according to American Society of Anesthesiologists (ASA) (**Sankar et al., 2014).**

Variables	**Continuous (N=25)**	**Interrupted (N=25)**	**x²**	**P value**
ASA classification				
1	16 (64%)	14 (56%)	X^2= 4.6	0.1
2	6 (24%)	11 (44%)		
3	3 912%)	0 (0%)		

Data are represented as number (%). Data are analyzed using chi square (X^2)

Table (3): Operative data and Distribution of TLH with bilateral salpingo-ophrectomy of the studied groups

Operative data	**Continuous (N=25)**	**Interrupted (N=25)**	**t**	**P value**
Time of operation (min)	154.8 ± 54.9	142.6 ± 52.1	0.8	0.42
Suturing time (minute)	4.8 ± 0.85	6.04 ± 1.05	-4.4	**<0.0001***
Distribution of TLH				
TLH with bilateral salpingo-ophrectomy			X^2=0.59	0.44
Yes	20 (80%)	22 (88%)		
No	5 (20%)	3 (12%)		

Data are represented as Mean ± SD or Median (Range). Data are analyzed using independent t test

Table (4): Degree of surgical difficulty using visual analoge scale (VAS) and outcome of the studied groups

	Continuous (N=25)	**Interrupted (N=25)**	**U**	**P value**
Degree of surgical difficulty using VAS	3.32 ± 0.9 Median =3 (2-5)	7.76 ± 0.96 Median= 8 (6-9)	325	**<0.0001***
Outcome				
Vaginal cuff dehiscence	1 (4%)	2 (8%)	X^2=0.35	0.55
Major vaginal bleeding	0 (0%)	1 (4%)	X^2=1.02	0.31
Minor vaginal bleeding	2 (8%)	4 (16%)	X^2= 0.75	0.38
Fever	3 (12%)	1 (4%)	X^2=1.08	0.29
Requiring (re) intervention	1 (4%)	1 (4%)	X^2=0	1
Length of hospital stay (days)	1.92 ± 0.27	1.96 ± 0.2	-0.58	0.56

Data are represented as Mean ± SD or Median (Range). Data are analyzed using Mann Whitney test

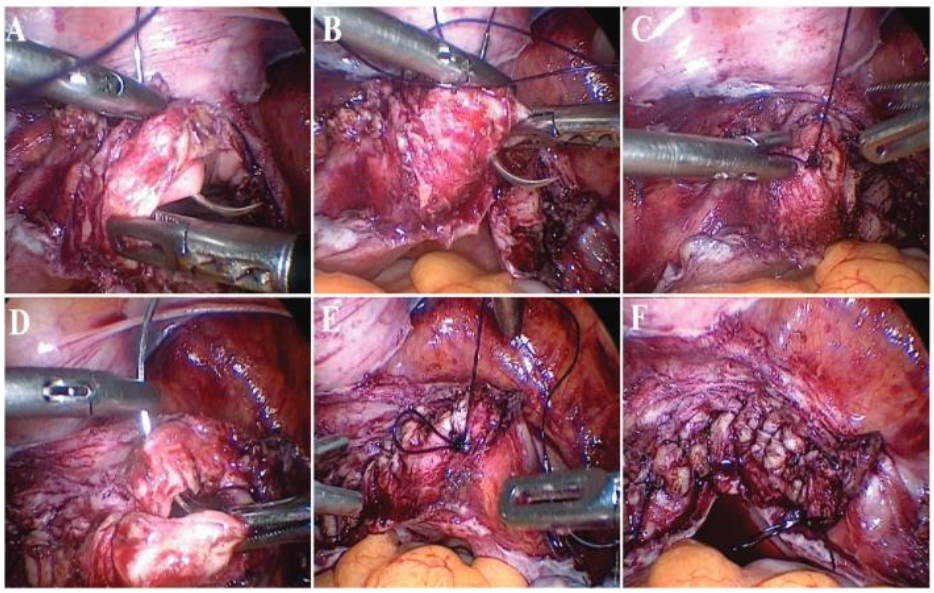

Figure (1): (A to C) Initiating the continuous suturing with Caprofil® suture, with tying of the knot. (D) Continuous suturing. (E) Tying the knot at the end of the line of the vaginal suturing. (F) Final appearance of the vaginal sutures.

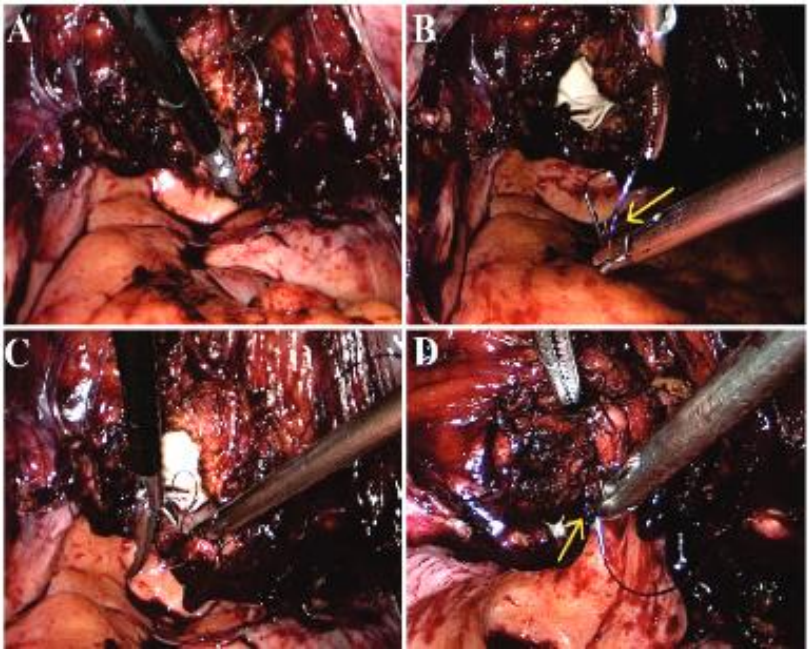

Figure (2): (A) Initiating the suturing with barbed V-Loc® thread. (B) Passing the needle through the loop of the V-Loc® (Yellow arrow). Passagem da agulha na alça do V-Loc ® . (C) Continuous suture of the vaginal cuff. (D) Passing the needle parallel to and against the line of suturing to finalize it without the need for a knot (Yellow arrow).

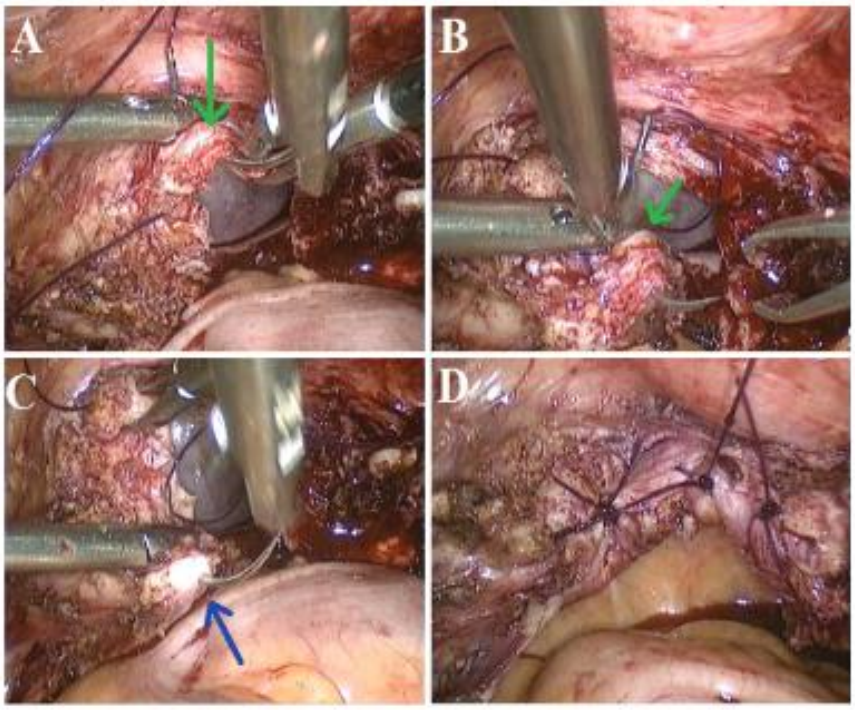

Figure (3): (A to C) Suturing of the vaginal cuff in a single plane with interrupted sutures. (D) Final appearance of the sutures. Green arrow = vagina; Blue arrow = uterosacral ligament.

Discussion:

The most common gynecological surgery performed worldwide is the hysterectomy operation. There are three possible methods for doing this procedure: laparoscopic, vaginal, and abdominal. The proportion of laparoscopic hysterectomies varies (15).

A rare consequence following a hysterectomy is vaginal cuff dehiscence (VCD). However, there have been multiple occurrences of VCD following a complete laparoscopic hysterectomy (TLH) in recent years (16) wherein the laparoscopic closure of the vaginal cuff is also performed Prior to the introduction of TLH in Finland, two national hysterectomy studies. Researchers discovered no instances of dehiscence during total abdominal hysterectomies (TAH), vaginal hysterectomies (VH), or typical laparoscopic procedures (LH) (17).

Potential causes of VCD include the manner and application of electrosurgery in the methods for opening the vagina as well as the material and technique for closing it, the characteristics of the woman, and the surgeon's experience (18). Cuff dehiscence can take many different forms, ranging from a minor opening of the vaginal incision to a major evisceration of the abdomen cavity into the vagina (19).

Ever since laparoscopic hysterectomies have become more common, studies have been conducted to determine the cause of VCD and the reasons behind its correlation with TLH. In relation to their association with VCD, patient characteristics such as smoking, diabetes, advanced age, radiation therapy, and chronic steroid administration have been addressed, along with precipitating factors like sexual activity, postoperative cuff infection and/or hematoma, and increased abdominal pressure (e.g., coughing, vomiting, and straining at the toilet) (20).

The vaginal cuff closure following a total laparoscopic hysterectomy varies greatly in terms of the suturing method, technique, and materials used. The closure of the vaginal vault can be achieved by intracorporeal or transvaginal sutures, continuous or interrupted sutures, and knotted or unknotted stitches in single or double layers (5).

Conventional sutures are commonly employed, but they have the potential to become loose or entangled, necessitating continuous tugging by the operating surgeon or an aid. This can lead to tissue ripping and tool collision, which can delay the suturing process. Longer postoperative vaginal length, less granulation tissue since the vault borders are not everted into the vagina, and superior vault support thanks to the pericervical ring are just a few benefits of laparoscopic intracorporeal closure (21).

In order to avoid vaginal vault dehiscence, laparoscopic knotting thought to be just as safe as traditional methods. On the other hand,

intracorporeal suturing and knot tying are thought to be the most challenging techniques. The principles of a flawless knot-tying require ease of use, quick execution, a tight knot, easily replicable techniques, and above all the right kind of suture material. The most difficult part of this procedure is doing it laparoscopically, which takes sufficient training and experience. Therefore, in order to go above the learning curve associated with intracorporeal suturing, it becomes imperative to look for a more practical method and safer surgical supplies. One such has been the use of barbed sutures, which, without the need for a surgical knot, reapproximate tissue and retain the tensile strength uniformly along the full length of the incision. The promising outcomes of multiple investigations indicate that the suture material may prove advantageous in gynecological surgery (6).

This study aims to determine whether, in comparison to interrupted suture, the use of continuous sutures for vaginal cuff closure during TLH decreased surgical difficulty, suturing time, and adverse events.

Regarding baseline data and demographics, there was no discernible difference between the two groups in the current study.

In line with our research, a study showed that there were no appreciable age differences between the women in groups I and II, with mean ages of 45.74 (SD = 4.96) and 44 (SD = 6.29) years, respectively (6). The two groups' BMIs did not differ significantly from one another. The patients' most frequent medical comorbidity was diabetes mellitus (n = 4), which was followed by hypertension (n = 3). Of the 27 patients who had previously had abdominal surgery, five had had an appendix removed, and 19 (or 70%) had had LSCS. When comparing the medical comorbidities and prior abdominal surgeries of the two groups, no statistically significant differences were found.

Furthermore, another study demonstrated that there were no statistically significant differences between the two groups and that the study population's mean age was 49.7 years (range, 35–82 years) (22). Regarding BMI, parity, prior abdominal surgery, change in hemoglobin levels (ΔHb), smoking, and comorbidities, no statistically significant variations were observed.

Also, in a study it was revealed that the patients' median age in groups 1 and 2 was 48 years (range 34–60) for the group receiving continuous suturing and 47 years (range 35–57) for the group receiving intermittent suturing (9). The mean BMI values were 24.6 ± 3.2 and 24.3 ± 3.4 kg/m^2, respectively, ranging from 17.5 to 37.2 kg/m2 overall. There was no difference in age, BMI, parity, previous surgical history, medical history or menopause status between the two groups.

Moreover, a study demonstrated that no statistically significant variations existed between the cohorts concerning the age, BMI, smoking habit, co-

morbidities, and use of immunosuppressive or anticoagulant medications by the patients (23). While another one revealed that the interrupted suture group (ISG) had a median age of 52 years (range 46–69), while the continuous suture group had a median age of 55 years (range 42–77). In the BSG, the mean BMI was 26 (range 21–35), whereas in the ISG, it was 28 (range 23–32) (24).

In the current study, endometrial hyperplasia was the most frequent reason for surgery in both groups, after uterine fibroids. There was no discernible difference in the diagnoses between the two groups.

According to a research (6), uterine fibroids were the most frequent reason for surgery in both groups, followed by endometrial hyperplasia, which is consistent with our findings.

Furthermore, a study demonstrated that symptomatic uterine leiomyoma (n = 71), adenomyosis-endometriosis (n = 23), abnormal uterine hemorrhage resistant to medical treatment (n = 42), and persistent adnexal mass beyond menopause (n = 3) were among the reasons for surgery in the interrupted suturing group (22). Surgery was indicated in the group receiving continuous suturing for symptomatic uterine leiomyoma (n = 34), adenomyosis-endometriosis (n = 9), and abnormal uterine bleeding that did not respond to medication (n = 20). Uterine leiomyoma accounted for 51% of all surgical indications, and there was no statistically significant difference between the two categories.

Moreover, a study (9) demonstrated that the indications for surgery in each of the 124 women in each therapy group were comparable. A symptomatic myoma was the top-ranked indication, followed by adenomyosis. The surgical indications for the two groups were identical.

A study (25) revealed that uterine fibroids and simple endometrial hyperplasia were the benign diseases that caused hysterectomy indications in 21 cases (61.8%), endometrial cancer in 9 cases (26.5%), and uterine prolapse in 4 cases (11.8%). According to research (26), uterine myomas were the most frequent reason for surgery.

In the current study, there was no significant difference between both groups regarding to ASA classification.

A study found that patients in the interrupted group had a poorer ASA categorization (p0.014), which is inconsistent with our findings (14).

The results of the current study showed a substantial difference in suturing time between the two groups, with the interrupted group suturing longer than the continuous group. Additionally, the continuous group operated for a longer period of time than the interrupted group, although there was no discernible difference.

A study found that the mean operation length was 139 minutes (± 2.86 minutes) for the overall study population and similar for the two groups, which is in line with our findings (22).

Furthermore, a study demonstrated that the interrupted group's mean operation time was 109.8 ± 39.4 min (range 80–280) while the continuous group's mean operating time was 115.0 ± 31.2 min (range 80–240). The continuous group's mean operation time was greater than the interrupted groups, but the difference was not statistically significant (P = 0.054) (9).

A study demonstrated that patients in the interrupted suturing group underwent surgery for 335 and 160 minutes, respectively, but with a statistically significant difference as compared to the continuous suturing group (14).

Utilizing polyglactin 910 suture, it was revealed that the average time required to sew a vaginal vault was 6.9 minutes (SD = 1.27 minutes). In contrast, group II, which employed barbed suture (continuous), required 5.39 minutes (SD = 0.76 minutes) for suturing, although this difference was statistically significant (p <0.0001) (6). The interrupted group's median operative time was 136 min (range 110–240) whereas the continuous group's median was 122 min (range 76–260). In the continuous group, vaginal closure took 10 minutes (range 8–13), while in the interrupted group, it took 16 minutes (range 12–20). Thus, there was proof of a noteworthy decrease in surgical time (p < 0.01) (24).

According to the current study, there was a substantial difference between the two groups' VASs, with the interrupted group having a higher VAS than the continuous group.

This was consistent with the findings of the research which showed that employing continuous sutures for vault closure resulted in a notable decrease in operating difficulty (6)

According to the current study, there was no discernible difference in the duration of hospital stay (days) between the two groups.

No statistically significant differences were detected with respect to length of hospital stay, which is consistent with our results (22).

In the current study, there was no discernible difference in VCD between the interrupted group (8%) and continuous group (4%).

No appreciable difference in vaginal cuff dehiscence between the two groups, which is consistent with our findings (24).

A VCD is more likely to develop as a subsequent condition to an underlying cause, such as an excessive coagulation-related haematoma or fundamental healing abnormality. The suture is perhaps the only remnant of the vaginal wall epithelium in these situations. Therefore, a (partial) separation of the vaginal cuff happens as soon as the suture loses the majority of its tensile strength. This theory is corroborated by the number of days that separate surgery from VCD. In the event of a primary healing defect, sexual activity may only precipitate the breakdown of a partially dissolved

suture, which leads to a (partial) separation of the vaginal wall epithelium that would have happened eventually. We believe that the recommendation made by some to wait three months after TLH before having sex is not supported by evidence or the pathophysiological mechanism of VCD (25).

In the current study, no patients in the continuous group experienced significant vaginal bleeding, whereas only 1 instance (4%) in the interrupted group complicated with such hemorrhage. There was no discernible difference in the percentage of minor vaginal bleeding between the interrupted group (16%) and the continuous group (8%). There was no discernible difference in the percentage of fever between the interrupted group (4%) and continuous group (12%). In each group, only one case (4%) required re-intervention. About complications, there was no discernible difference between the two groups.

It was demonstrated that the rate of complications necessitating re-intervention and the total complication rate (across all severities) were comparable between the groups, which is consistent with our study (14).

According to a study there was no significant difference in the rates of vaginal spotting between the two groups. With the exception of the VCD patient, neither group experienced any significant bleeding (22).

Furthermore, a study demonstrated that there were no variations in vaginal bleeding or infection. Regarding concurrent adnexal surgeries conducted at the time of hysterectomy, blood loss, time to complete the procedure or repair the vaginal cuff, and peri-operative problems, they could not find any statistically significant variations stratified by suture technique. No VCD was present in any of the groups (23).

A study was done that revealed that vaginal spotting was the most frequent postoperative consequence, occurring in 10 (8.1%) of the continuous group and 5 (4%) of the interrupted group. The patients merely required observation; no surgery or medicine was required because the spotting was minimal and only lasted for three days. P = 0.183 indicates that there was no statistically significant difference between the groups. On postoperative day 33, vaginal bleeding was detected in just one patient in the continuous group. The patient's severe vaginal bleeding following sex led to her admission to the emergency department. There was a partial ripping of the vaginal cuff and one exposed pumping artery, but there was no dehiscence of the vaginal cuff. Following transfusion, 2-0 Polysorb was used to repair the cuff using a vaginal technique. In one case, a continuing group member reported having an incisional hernia. The patient experienced severe myoma symptoms. After a smooth TLH, a 5-mm trocar site was used to insert a drain into the right lower abdomen at the conclusion of the procedure (9). Neither group had any evidence of vaginal cuff dehiscence in terms of secondary endpoints. However, the

interrupted group had one case of significant vaginal bleeding that required a partial re-suture of the vaginal cuff five days after surgery, and there was evidence of de-epithelization in those areas. The two groups did not differ in terms of minor vaginal bleeding or spotting: 10.4% in the continuous group and 15% in the interrupted group (24).

It was demonstrated that the incidence of infection, hemorrhage, or other consequences did not differ significantly (26).

Conclusion:

Our continuous suture approach was safe, effective and well tolerated procedure that reduces operative times, suturing time and degree of surgical difficulty for TLH more than interrupted suture.

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