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Comparative Study of Various Approaches for Hysterectomy in Benign Uterine Pathology

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ABSTRACT

Background: Hysterectomy is one of the most commonly performed gynaecological surgeries for benign uterine conditions. Various surgical routes, including total abdominal hysterectomy (TAH), non-descent vaginal hysterectomy (NDVH), and total laparoscopic hysterectomy (TLH), differ in terms of operative difficulty, complications, recovery, and patient outcomes. Selecting the optimal route remains important for improving perioperative and postoperative outcomes.
Aim: To compare the perioperative and postoperative outcomes of TAH, NDVH, and TLH in women undergoing hysterectomy for benign uterine pathology.
Materials and Methods: A prospective analytical study was conducted in the Department of Obstetrics and Gynaecology at BJ Medical College and Civil Hospital, Ahmedabad, from August 2023 to August 2024. A total of 150 patients with benign uterine conditions were equally divided into three groups: TAH (n=50), NDVH (n=50), and TLH (n=50). Demographic profile, indications, operative time, intraoperative and postoperative complications, blood loss, blood transfusion, postoperative pain score, and duration of hospital stay were compared among the groups. Statistical analysis was performed using chi-square test, ANOVA, and Kruskal-Wallis test where appropriate.
Results: Most patients belonged to the 46–50 years age group (66%) and were multiparous. Fibroid uterus was the most common indication for hysterectomy (36.67%), followed by adenomyosis (32%) and dysfunctional uterine bleeding (16%). TAH was commonly performed for uterine size >8 weeks (54%), whereas TLH was preferred for normal-sized uterus (52%). NDVH had the shortest operative time, while TAH had the longest. Intraoperative and postoperative complications were highest in the TAH group. Fever (6%) was the most common postoperative complication, and wound infection occurred predominantly after TAH (6%). Mean postoperative pain score and hospital stay were highest in the TAH group, whereas NDVH and TLH were associated with faster recovery and shorter hospitalisation. Blood transfusion requirement was also higher in TAH cases. No mortality was reported.
Conclusion: NDVH and TLH demonstrated superior perioperative and postoperative outcomes compared to TAH in selected benign uterine conditions. NDVH, being scarless, cost-effective, and associated with shorter operative time, reduced postoperative pain, and shorter hospital stay, appears to be the preferred route whenever feasible. TLH is an effective minimally invasive alternative in cases unsuitable for vaginal hysterectomy.

Keywords: *Hysterectomy, Total abdominal hysterectomy, Non-descent vaginal hysterectomy, Total laparoscopic hysterectomy, Benign uterine disease, Fibroid uterus, Adenomyosis, Operative outcomes, Postoperative complications, Minimally invasive gynaecological surgery.*

INTRODUCTION

Hysterectomy, the surgical removal of the uterus, is one of the most common elective gynaecological surgeries performed for benign and malignant condition[1]. Women often associate the uterus and menstruation with femininity and sexual identity[2]. In India, the prevalence of hysterectomy varies widely across states(2 to 63 per 1000 women[3]), with Gujarat reporting a prevalence of approximately 4.2%[4] . The procedure is commonly performed in women aged 40–45 years for indications such as fibroids, abnormal uterine bleeding, uterine prolapse, chronic pelvic pain, and gynaecological malignancies[1].

Hysterectomy can be performed through abdominal, vaginal, laparoscopic, or robotic routes[4]. Selection of the surgical route depends on factors including uterine size, pelvic accessibility, associated pathology, surgeon expertise, available infrastructure, and patient preference[5]. Among the different approaches, vaginal hysterectomy is considered the safest and most cost-effective whenever feasible, owing to shorter operative time, reduced hospital stay, and fewer postoperative complications[6]. The French surgeon Doyen famously stated that no one could call themselves a gynaecologist until they had performed a vaginal hysterectomy[7]. Familiarity with vaginal surgery distinguishes gynaecologists from general surgeons[8.] Laparoscopic hysterectomy offers advantages such as minimal blood loss, faster recovery, and improved cosmetic outcomes, whereas abdominal hysterectomy remains important in cases of malignancy, large uterine size, or limited laparoscopic expertise[9].

Although hysterectomy is generally safe, it may be associated with complications such as haemorrhage, infection, injury to adjacent organs[10]; and psychological effects including anxiety or altered sexual wellbeing, decreased libido or social disruption[11].

Therefore, the choice of surgical route should be individualized, balancing safety, feasibility, patient preference, and available evidence to achieve optimal outcomes, considering Hippocrates' advice: “If choicest is not chosen, it is harm” and “If you can do no good, do no harm.”

AIMS AND OBJECTIVES

The aim is to compare the perioperative and postoperative outcomes of three routes of hysterectomy namely total abdominal hysterectomy, non-descent vaginal hysterectomy and total laparoscopic hysterectomy.

The objectives:

1. To compare demographic profiles and presenting symptoms in total laparoscopic hysterectomy, total abdominal hysterectomy and non-descent vaginal hysterectomy.
2. To compare the indications for all three types of surgeries.
3. To compare total laparoscopic, non-descent vaginal and total abdominal hysterectomies in terms of procedure, operative time.
4. To compare the intraoperative and postoperative complications in terms of blood loss and blood transfusion, injury to surrounding structures and pain in all three types of hysterectomies.
5. To compare total laparoscopic, non-descent vaginal and total abdominal hysterectomies in terms of postoperative hospital stays, post-op recovery and delayed complications.

MATERIALS AND METHODS

A prospective analytical study was conducted in the Department of Obstetrics and Gynaecology at BJ Medical College and Civil Hospital from August 2023 to August 2024, or until 150 cases were enrolled. After obtaining informed written consent, detailed medical, family, and personal histories were recorded in a structured proforma. The study compared perioperative and postoperative outcomes among three routes of hysterectomy: abdominal hysterectomy (AH), vaginal hysterectomy (VH), and total laparoscopic hysterectomy (TLH).

A total of 150 patients undergoing hysterectomy for benign uterine conditions were included and equally divided into three groups of 50 patients each:

- Group A: Abdominal hysterectomy
- Group B: Vaginal hysterectomy
- Group C: Total laparoscopic hysterectomy

The choice of surgical route was determined by the operating surgeon, while data analysis was performed by the chief investigator.

Inclusion Criteria

- Benign uterine conditions
- Uterine size <16 weeks
- Mobile uterus
- Eligible patient age group

Exclusion Criteria

- Gynaecological malignancy
- Uterine size >16 weeks
- Adnexal mass (extrauterine pathology)
- Uterine prolapse
- Endometriosis
- Previous history of multiple abdominal surgeries

All patients underwent routine blood investigations and ultrasonography, while dilatation and curettage was performed when indicated to exclude malignancy or other pathology.
Preoperative evaluation included complete blood count, renal and liver function tests, coagulation profile, and anaesthetic assessment. Surgical procedures were performed according to standard operative techniques described in Te Linde's Operative Gynaecology. Operative time and intraoperative complications such as haemorrhage, adhesions, and injury to adjacent organs were recorded.

Postoperatively, patients were monitored for complications, pain management, ambulation time, and duration of hospital stay. Discharge was based on adequate pain control, return of bowel and bladder function, and overall clinical stability.

OBSERVATION AND RESULTS

In the present study, 50 cases of each total abdominal hysterectomy, non-descent vaginal hysterectomy and total laparoscopic hysterectomy were taken.

Table 1: Age distribution

Age years in	TAH	NDVH	TLH	Total	
36-40	0(0%)	1(2%)	2(4%)	3(2%)	Chi square=6.62
41-45	6(12%)	7(14%)	13(26%)	26(17.33%)	P value=0.36
46-50	39(78%)	33(66%)	27(54%)	99(66%)	
>50	5(10%)	9(18%)	8(16%)	22(14.67%)	
	50(100%)	50(100%)	50(100%)	150	

In our study, the majority of patients belonged to the 46–50 years age group (66%), followed by 41–45 years (17.33%), as menstrual disturbances are most common in this age group. Very few hysterectomies were performed in patients below 40 years (2%), mainly for endometriosis after failed medical treatment, and these were mostly done laparoscopically. The age distribution among three different routes of hysterectomy was statistically insignificant(P value>0.05).

Table 2: Parity distribution

Parity	TAH	NDVH	TLH	Total	
0	3(6%)	6(12%)	6(12%)	15(10%)	Chi square=3.91
1	5(10%)	6(12%)	7(14%)	18(12%)	P value=0.87
2	24(48%)	16(32%)	20(40%)	60(40%)	
3	9(18%)	11(22%)	9(18%)	29(19.33%)	
>3	9(18%)	11(22%)	8(16%)	28(18.66%)	
	50(100%)	50(100%)	50(100%)	150	

In our study, most patients undergoing hysterectomy were multiparous, with only 10% being nulliparous. The mean parity across all groups was 2. Among nulliparous women, most underwent laparoscopic or non-descent vaginal hysterectomy, while multiparous women more commonly underwent non-descent vaginal hysterectomy. The parity distribution among the three routes of hysterectomies was statistically insignificant(P value>0.05).

Table 3: Indication

Indication	TAH	NDVH	TLH	Total	
Fibroid	31(62%)	19(38%)	5(10%)	55(36.67%)	Chi- square=48.23
Adenomyosis	9(18%)	22(44%)	17(34%)	48(32%)	P value<0.0001
Endometriosis	0(0%)	0(0%)	7(14%)	7(4.67%)	
DUB	5(10%)	7(14%)	12(24%)	24(16%)	
PID	4(8%)	0(0%)	7(14%)	11(7.3%)	
Endometrial hyperplasia	1(2%)	2(4%)	2(4%)	5(3.33%)	
	50	50	50	150	

In the present study, fibroid uterus (36.67%) was the most common indication for hysterectomy, followed by adenomyosis (32%), while endometrial hyperplasia (3.33%) was the least common indication. Conservative and medical management were attempted before hysterectomy, and patients with endometrial hyperplasia underwent dilatation and curettage prior to surgery. The indication of surgery for choosing different routes Of hysterectomies was statistically significant(P value<0.05).

Table 4: Previous mode of delivery

	TAH	NDVH	TLH	Total	
Nulliparous	3(6%)	6(12%)	6(12%)	15(10%)	Chisquare=4.36
Vaginal	31(62%)	36(72%)	31(62%)	98(65.33%)	P value=0.36
Cesarean	16(32%)	8(16%)	13(26%)	37(24.67%)	
	50	50	50	150	

In our study, most patients undergoing hysterectomy had a history of vaginal delivery (65.3%), while 24.67% had previous caesarean sections and 10% were nulliparous. Among patients with previous caesarean sections, abdominal hysterectomy was most commonly performed due to adhesions, followed by laparoscopic and non-descent vaginal hysterectomy.

With adequate vaginal access and good uterine mobility, non-descent vaginal hysterectomy can be safely performed even in difficult cases such as previous scars, large fibroids, burns, or umbilical hernia, where laparoscopic entry may be challenging. Techniques such as bisection, myomectomy, and debulking help facilitate vaginal hysterectomy in enlarged uteri. The previous mode of delivery for different routes of hysterectomies was statistically insignificant(P value>0.05)

Table 5: History of medical illness

	TAH	NDVH	TLH	TOTAL
Hypertension	7(14%)	3(6%)	5(10%)	15(10%)
Diabetes mellitus	2(4%)	5(10%)	0(0%)	7(4.67%)
Anaemia	10(20%)	5(10%)	4(8%)	19(12.67%)
Hypothyroidism	0(0%)	2(4%)	1(2%)	3(2%)
No illness	31(62%)	35(70%)	40(80%)	106(70.67%)
	50	50	50	150

The most common associated condition was anaemia (12.6%), mainly due to heavy menstrual bleeding, followed by hypertension (10%). Severe anaemia required preoperative blood transfusion, while mild to moderate cases were managed with iron therapy. Diabetes mellitus was present in 4.64% and hypothyroidism in 2% of patients. As hysterectomy is an elective procedure, patients with uncontrolled medical conditions were not selected for surgery. Vaginal hysterectomy can be a preferable option in high-risk patients where general anaesthesia may carry greater risk.

Table 6: Size of uterus

Size	TAH	NDVH	TLH	Total	
Normal	8(16%)	11(22%)	26(52%)	45(30%)	Chisquare=35.91
Bulky-8 weeks	15(30%)	24(48%)	22(44%)	61(40.67%)	P<0.0001
>8-16 weeks	27(54%)	15(30%)	2(4%)	44(29.33%)	
	50	50	50	150	

In our study, patients with uterine size >8 weeks more commonly underwent total abdominal hysterectomy (54%) due to the technical difficulty associated with bulky uteri. For uterine size ≤8 weeks, non-descent vaginal hysterectomy was most commonly performed, followed by laparoscopic hysterectomy. In patients with normal-sized uterus, laparoscopic hysterectomy was the preferred approach. The association between uterine size and route of hysterectomy was statistically significant (p<0.05).

Table 7: Duration of Surgery

	TAH	NDVH	TLH	Total	
<60 mins	3(6%)	23(46%)	4(8%)	30(20%)	Chi square=32.06
60-120 mins	34(68%)	21(42%)	35(70%)	90(60%)	P value<0.0001
>120 mins	13(26%)	6(12%)	11(22%)	30(20%)	
	50	50	50	150	

In our study, 46% of non-descent vaginal hysterectomies were completed in less than 60 minutes, while 70% of laparoscopic hysterectomies were completed within two hours. Approximately 26% of abdominal hysterectomies took more than two hours. Non-descent vaginal hysterectomy had the shortest operative time and was associated with less postoperative morbidity and shorter hospital stay, whereas abdominal hysterectomy was associated with greater postoperative morbidity and longer hospital stay.

Table 8: Intraoperative complications

	TAH	NDVH	TLH	Total	
Haemorrhage	2(4%)	1(2%)	0(0%)	3(2%)	Chisquare=9.75
Bladder injury	1(2%)	1(2%)	1(2%)	3(2%)	P value=0.46
Ureteric injury	0(0%)	0(0%)	0(0%)	0(0%)	
Bowel injury	0(0%)	0(0%)	0(0%)	0(0%)	
Conversion to laparotomy	0(0%)	0(0%)	1(2%)	1(0.67%)	
No complications	47(94%)	48(96%%)	48(96%)	143(95.33%)	
	50	50	50	150	

In our study, no intraoperative complications were observed in 95.33% of cases. Patients with previous multiple caesarean sections and restricted uterine mobility were more commonly managed by abdominal hysterectomy due to adhesions requiring adhesiolysis. A total of 3 bladder injuries occurred—1 each during abdominal, non-descent vaginal, and laparoscopic hysterectomy—all of which were repaired intraoperatively with good postoperative recovery. Two cases of major haemorrhage were also noted and managed successfully. Intraoperative complications occurred across different routes of hysterectomy, but the difference was statistically insignificant ($p>0.05$).

Table 9: Postoperative complications

	TAH	NDVH	TLH	Total	
Secondary haemorrhage f/b re-exploration	2(4%)	0(2%)	0(0%)	2(1.33%)	Chisquare=22.17
Wound infection	3(6%)	0(0%)	0(0%)	3(2%)	P value=0.01
Febrile episodes	5(10%)	1(2%)	3(6%)	9(6%)	
Vault discharge	0(0%)	2(4%)	1(2%)	3(2%)	
Fistula	0(0%)	0(0%)	0(0%)	0(0%)	
No complications	40(80%)	47(94%)	46(92%)	133(88.67%)	
	50	50	50	150	

In our study, 2 patients (4%) who underwent abdominal hysterectomy developed secondary haemorrhage due to hematoma formation and slipped uterine artery ligature, both requiring re-exploration. Wound infection occurred in 3 abdominal hysterectomy cases (6%) and was managed with resuturing and antibiotics.

A total of 9 patients developed postoperative fever, most commonly after abdominal hysterectomy, and all were managed conservatively. Vault discharge was seen in 2 non-descent vaginal hysterectomy cases and 1 laparoscopic hysterectomy case, which also responded to conservative management. Postoperative complications among different routes of hysterectomy were statistically significant ($p<0.05$).

Table 10: blood loss & blood transfusion

	TAH	NDVH	TLH	
Pre-operative Haemoglobin(gm/dl)	11.60+/- 1.20	11.75+/- 1.50	11.65+/- 0.75	ANOVA=1.004; P value=0.37
Post-operative haemoglobin(gm/dl)	10.10+/- 0.50	10.50+/- 0.75	10.50+/- 0.40	ANOVA=0.36; P value=0.7
Drop in haemoglobin(gm/dl)	1.50+/- 0.70	1.25+/- 0.75	1.15+/- 0.35	ANOVA=0.94; P value=0.39
Pre-operative hematocrit(%)	35.5	36.5	36	
Post-operative hematocrit(%)	33	34.5	34.5	
Drop in hematocrit(%)	2.5	2	1.5	

Blood transfusion	9(6%)	5(3.33%)	4(2.67%)	Chi-square=7.08; P value=0.03

In our study, the mean drop in haemoglobin and hematocrit was highest in total abdominal hysterectomy, followed by non-descent vaginal hysterectomy, and lowest in total laparoscopic hysterectomy. Blood transfusions were required most commonly in the abdominal hysterectomy group, followed by non-descent vaginal and laparoscopic hysterectomy groups. The difference in preoperative and postoperative haemoglobin levels among the three routes of hysterectomy was statistically insignificant ($p>0.05$), whereas the requirement for blood transfusion was statistically significant ($p<0.05$).

Table 11: Post-operative Pain score(Visual analogue scale)

Vas score	TAH	NDVH	TLH	
Median(IQR)	5(5-6)	3(2-4)	3(2-4)	KruskalWallise=47.75; P value=<0.0001

In our study, the mean VAS pain score was highest in the abdominal hysterectomy group, while lower scores were observed in laparoscopic and non-descent vaginal hysterectomy groups due to the minimally invasive nature of these procedures and absence of large abdominal scars. Higher pain scores in abdominal hysterectomy were likely related to larger incisions, bulky uterus, and adhesions. The difference in VAS scores among the three routes of hysterectomy was statistically significant ($p<0.05$).

Table 12: Duration of post-operative Hospital stay

Days	TAH	NDVH	TLH	Total	
3 days	9(18%)	30(60%)	19(38%)	58(38.67%)	Chi-square =19.28
4-7 days	27(54%)	14(28%)	23(46%)	64(42.67%)	P value=0.0007
>7 days	14(28%)	6(12%)	8(16%)	28(18.67%)	
	50	50	50	150	

In our study, vaginal and laparoscopic hysterectomies were associated with significantly shorter hospital stay compared to abdominal hysterectomy. Most patients undergoing vaginal hysterectomy were discharged within 3 days, while prolonged hospital stay was more common after abdominal hysterectomy due to pain, discomfort, or fever. Faster postoperative recovery and less discomfort were observed after vaginal hysterectomy. The difference in postoperative hospital stay among the three routes of hysterectomy was statistically significant ($p<0.05$).

DISCUSSION

The present study compared perioperative and postoperative outcomes of total abdominal hysterectomy (TAH), non-descent vaginal hysterectomy (NDVH), and total laparoscopic hysterectomy (TLH) in 150 patients with benign uterine pathology at a tertiary care hospital in Ahmedabad between August 2023 and August 2024.

Most patients belonged to the 46–50 years age group, which is consistent with previous studies by Panda et al[12]., Sivapragasam et al.[13] ,and Kanti et al.[14]

Studies	Common age group(46-50 years)
Present study	66%
Panda S. et al.	60.26%
Sivapragasam V.et al	51%
Kanti V. et al.	86.89%

The majority were multiparous women with previous vaginal deliveries. The majority of the women who underwent hysterectomies were parous. This observation is consistent with the studies conducted by Sivapragasam V. et. Al.[13] Kanti V. et. Al.[14] and Panda S. et. Al.[12] Heavy menstrual bleeding and lower abdominal pain were the most common presenting complaints.

Most patients had previous vaginal delivery (65.3%), while 24.67% had prior cesarean section and 10% were nulliparous. Even in difficult cases like large myomas and previous scars, NDVH was feasible with experienced surgeons.

In patients with previous normal delivery, NDVH may be preferred when conditions such as burn scars or umbilical hernia make laparoscopic entry difficult and risky.

Fibroid uterus was the most common indication for hysterectomy, followed by adenomyosis and dysfunctional uterine bleeding, findings comparable with studies by Rana et al[15]., Biswal et al[16]., and SA Ali et al.[17]

Studies	Fibroid	Adenomyosis	DUB
Present study	36.67%	32%	16%
Rana UB et al.	41.75%	16.75%	31.25%
Kanti V. et Al.	81.37%	9%	5.5%
Biswal et Al.	49%	5%	26.5%
SA Ali et Al.	41.33%	5.33%	18.67%
Panda S. et Al.	25.27%	4.6%	33.9%

The most common comorbidity in our study was anaemia (12.67%), followed by hypertension (10%), whereas studies by Biswal et. Al. and SA Ali et. Al. reported hypertension as the most common comorbidity. Anaemia in our study was mainly due to heavy menstrual bleeding and was managed with iron therapy or blood transfusion in severe cases. Other comorbidities included diabetes mellitus (4.6%) and hypothyroidism (2%).

In our study, patients with uterine size >8 weeks more commonly underwent total abdominal hysterectomy (54%) than non-descent vaginal hysterectomy (30%) and total laparoscopic hysterectomy (4%) due to the increased difficulty of vaginal surgery in bulky uterus cases. Similar findings were observed in the study by Alamelu D N et. Al.[18] where abdominal hysterectomy was also more common in uteri >8 weeks. During NDVH for larger uteri, bisection, myomectomy, or debulking was often performed to reduce uterine size. Patients with uterine size ≤8 weeks mainly underwent NDVH (48%), followed by laparoscopic hysterectomy (44%), while laparoscopic hysterectomy (52%) was most common in normal-sized uterus cases.

In our study, 44% of non-descent vaginal hysterectomies were completed in less than 60 minutes compared to the other two groups. Additionally, 30% of total abdominal hysterectomies took more than two hours, followed by 20% of total laparoscopic hysterectomies. This indicates that total abdominal hysterectomies took more time than laparoscopic and non-descent vaginal hysterectomies, mainly due to larger uterine size and cases with previous multiple surgeries being more commonly assigned to the abdominal route.

In the study by SA Ali et al., the operative time was significantly longer in the laparoscopic hysterectomy group compared to the abdominal and vaginal hysterectomy groups. Similarly, Jaturasrivilai et al.[19] also reported significantly longer operative time in the laparoscopic hysterectomy group compared to the total abdominal hysterectomy group.

In our study, no intraoperative complications were seen in 95.33% of cases. Urinary tract injuries occurred in 3 cases (2%), all being bladder injuries—1 each during abdominal, non-descent vaginal, and laparoscopic hysterectomy. Most patients had previous caesarean sections with adhesions. Similar findings were reported by Panda S et al., SA Ali et al., and Kim HS et al.[20], while Biswal et al.50 reported higher and Tamrakar SR et al.[21] reported lower rates.

No bowel injury was observed in our study, similar to SA Ali et al. In contrast, bowel injuries were reported by Tamrakar SR et al., Panda S et al., Kim HS et al., and Biswal et al.

One laparoscopic hysterectomy required conversion to laparotomy due to bladder injury. Similar conversion rates were reported by Tamrakar SR et al., Panda S et al., Kim HS et al., and SA Ali et al.

Studies	Urinary tract injuries	Bowel injuries	Conversion to laparotomy
• Present study	2%	0%	0.67%
Panda S. et. Al.	3.89%	1.11%	1.67%
Biswal et. Al.	7%	4%	0%
SA Ali et. Al.	2.67%	0%	1.33%
Tamrakar Sr et. Al.	0.52%	0.26%	1.45%
Kim HS et. Al.	1.35%	0.4%	0.5%

In our study, 2 patients (1.33%) who underwent abdominal hysterectomy developed secondary haemorrhage requiring re-exploration due to hematoma formation and slipped uterine artery ligature. Similar findings were reported by Doganay et al.[22]Wound infection was seen in 2% of abdominal hysterectomy cases, while postoperative fever occurred in 6% of patients, most commonly after abdominal hysterectomy. Vault discharge was seen in 3 cases (2%). No fistula was observed in our study. Similar postoperative complications were reported by SA Ali et al. and Biswal et al., whereas Panda S et al. reported higher rates. In contrast to our study, Kim HS et al. and Kanti V et al. reported fistula formation following laparoscopic hysterectomy.

The mean drop in haemoglobin and hematocrit was highest in total abdominal hysterectomy, followed by non-descent vaginal hysterectomy and laparoscopic hysterectomy. Similar observations were reported by SA Ali et al. and Doganay et al.

A total of 18 patients (12%) required blood transfusion, most commonly in the abdominal hysterectomy group. Comparable findings were reported by SA Ali et al. and Kim HS et al., while Tamrakar SR et al. and Doganay et al. reported lower transfusion rates

In our study, vaginal and laparoscopic hysterectomies had significantly shorter hospital stay compared to abdominal hysterectomy. Most patients undergoing NDVH and TLH were discharged within 3–7 days, whereas prolonged hospital stay was more common after abdominal hysterectomy due to pain, discomfort, or fever. Similar findings were reported by Biswal et al. and Doganay et al.

The mean VAS pain score was highest in the abdominal hysterectomy group, while lower scores were observed in laparoscopic and non-descent vaginal hysterectomy groups. Similar observations were reported by SA Ali et al..In our study, the mean postoperative hospital stay was 5.14 days, which was comparable to the study by Kim HS et al.(5.3 days).

CONCLUSION

In our study, we compared total abdominal hysterectomy, non-descent vaginal hysterectomy, and total laparoscopic hysterectomy across various parameters, including patient age, parity, previous mode of delivery, uterine size, surgical indication, intraoperative and postoperative complications, need for blood transfusion, duration of surgery, postoperative pain score, and duration of postoperative hospital stay.

Based on our findings, we conclude that non-descent vaginal hysterectomy is preferable to total abdominal hysterectomy due to several advantages: it is a scarless procedure, associated with fewer intraoperative and postoperative complications, less blood loss, reduced postoperative pain, early ambulation, and shorter hospital stays. Non-descent vaginal hysterectomy also offers advantages over total laparoscopic hysterectomy, as it is again a scarless procedure with fewer complications and shorter hospital stays. The worldwide trend is increasingly favouring minimally invasive approaches, and vaginal hysterectomy is a cost-effective alternative to total laparoscopic hysterectomy, as it does not require expensive laparoscopy equipment, making it more accessible for beginners.

Moreover, non-descent vaginal hysterectomy can be safely performed in the presence of complicating factors, such as scar tissue from previous burns or umbilical hernias, which could make trocar entry during laparoscopic hysterectomy difficult and risky. In these cases, vaginal hysterectomy is often a safer and more feasible option, as it avoids abdominal entry and reduces complications associated with scar tissue or hernias.

Total laparoscopic hysterectomy, while still a less invasive option than total abdominal hysterectomy, also offers fewer complications, less blood loss, less postoperative pain, and shorter hospital stays compared to total abdominal hysterectomy. However, abdominal hysterectomy is now generally avoided due to its association with larger abdominal scars, greater postoperative discomfort, higher complication rates, and longer hospital stays.

Thus, when feasible, non-descent vaginal hysterectomy or total laparoscopic hysterectomy should be the preferred surgical approach over abdominal hysterectomy for better patient outcomes.

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