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Research Article

Non-descent vaginal hysterectomy versus total abdominal hysterectomy in fibroid uterus: a comparative study in tertiary care hospital in Uttarakhand, India

Divya Goswami^{1*}, Monika Ramola¹, Vineeta Gupta¹, Nidhi Kumari¹,
Rashmi Kumari²

¹Department of Obstetrics and Gynaecology, ²Department of Community Medicine SGRRIMHS and SMIH, Dehradun, Uttarakhand, India

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***Correspondence:**

Dr. Divya Goswami,

E-mail: praveentyagi6@gmail.com

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ABSTRACT

Background: Hysterectomy comprises one of the most common elective surgeries in hysterectomy as the operative modality. The vaginal route of hysterectomy has been largely reserved for prolapsed uteri or non-descent cases with nearly normal size uteri. In the state of Uttarakhand, where specialized health services are difficult to access, abdominal route forms the prime choice for surgical treatment of fibroid uterus. A multitude of research data has suggested the superiority of vaginal over abdominal route. Despite this, there is a definite hesitation amongst gynecologists to resort to NDVH for fibroid uterus. This study was done with the objective to compare and analyze the outcome of abdominal vs. vaginal route for uterine fibroids.

Methods: A retrospective study carried out for 80 patients admitted in one year duration with the diagnosis of fibroid uterus. These patients underwent either total abdominal hysterectomy (TAH) or (non-descent vaginal hysterectomy) NDVH depending upon patient discretion after thorough discussion with the operating doctor.

Results: The results displayed vaginal route to be superior in terms of operative time, intra-operative blood loss and postoperative recovery.

Conclusions: We concluded from this study that patients can be safely offered NDVH, thus minimizing the need for laparotomy for fibroid uterus.

Keywords: Total abdominal hysterectomy, Non-descent vaginal hysterectomy, Fibroid uterus

INTRODUCTION

Hysterectomy is one of the most common procedures performed by gynecologists.¹ Fibroids form the most common indication for surgery in premenopausal women and they constitute a major chunk of public health cost.² There are multiple studies confirming the superiority of vaginal over abdominal route.³ NDVH is attempted with caution in cases with big uteri. But there are studies to refute this concept.^{4,5} Our hospital being a tertiary care centre caters to the population from the most remote areas of the state. Due to lack of expertise, a large sector

of the population remains deprived of NDVH for the surgical management of fibroids. Research data needs to be collected so that we can analyse and evaluate the feasibility of NDVH for fibroid uterus in our perspective.

Out of all routes available for hysterectomy like abdominal, vaginal, laparoscopic and robot assisted, the vaginal route stands out as a prime choice. With requisite skill and training, NDVH may be offered in most benign gynaecological conditions including fibroids.

The vaginal route has many advantages like better intra and post-operative course, less analgesic need, less postoperative stay and improved pain scores.

There is a need to eliminate the hesitation amongst gynaecologists to adopt the vaginal route for benign gynaecological conditions including fibroid. We should reiterate the significance of the vaginal route of hysterectomy in the best interest of the patient.

METHODS

This retrospective study was carried out at SGRRIMHS and SMIH, Dehradun. A total of 80 cases admitted in gynecology department with diagnosis of fibroid uterus in one year period (January 2015 - January 2016) were included in the study. Uterine size more than 16 weeks and history of more than 1 previous LSCS were excluded from the study.

All the cases were subjected to thorough systemic and local examination. Preoperative investigations, pap smear and ultrasound was done for all cases. The mode of surgery was decided by the operating surgeon after detailed discussion with the patient. The operating time was calculated from the cervico-vaginal incision to vault closure in NDVH. Operating time for TAH was from abdominal incision to complete abdominal closure. Intra-operative blood loss was calculated by noting the number of mops and blood suctioned during the surgery. Intra-operative complications like hemorrhage and visceral injuries were recorded.

Postoperatively all patients were given same antibiotic prophylaxis with adequate analgesia and fluid replacement. Complications like wound infection, vault hematoma, febrile morbidity and hemorrhage were kept into consideration. Postoperative pain score on day 3 was documented according to the visual analogue score (VAS). The data was statistically analyzed with SPSS 20 and appropriate tests of significance applied.

RESULTS

Table 1: Age distribution.

Age in years	Abdominal N (%)	Vaginal N (%)	Total N (%)
30-35	3 (7.5)	7 (17.5)	10 (12.5)
36-40	11 (27.5)	10 (25.0)	21 (26.25)
41-45	10 (25.0)	15 (37.5)	25 (31.25)
46-50	13 (32.5)	5 (12.5)	18 (22.50)
50 and above	3 (7.5)	3 (7.5)	6 (7.50)
Total	40	40	80 (100)
Group	Mean±SD		Range
Abdominal hysterectomy	43.70±6.098		30
Vaginal hysterectomy	41.75±6.242		27

X²= 4.370; df =2; P > 0.05 (non-significant).

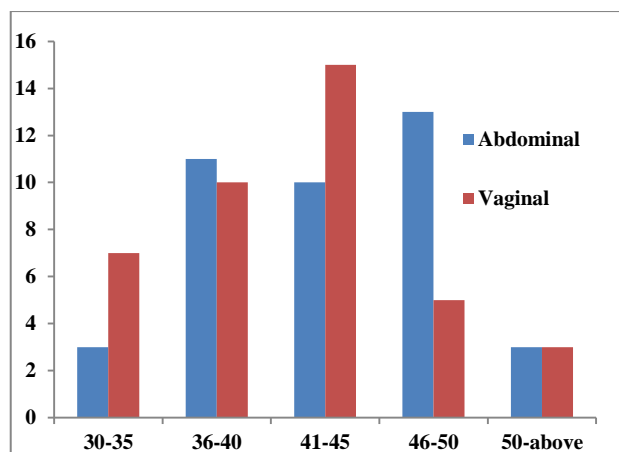


Figure 1: Age distribution of cases.

Overall, 80 women with a diagnosis of fibroid uterus admitted between January 2015 and January 2016 were analysed. The mean age in TAH group was 43.7 years and in NDVH group was 41.7 years. The difference was not statistically significant (Table 1, Figure 1).

The mean parity was ranging between 2-4 in both the groups (Table 2, Figure 2).

Table 2: Parity wise distribution.

Parity	Abdominal N (%)	Vaginal N (%)	Total N (%)
Nulli- P ₁	6 (15.0)	-	6 (7.5)
P ₂ - P ₄	31 (77.5)	35 (87.5)	66 (82.5)
P ₅ - P ₇	3 (7.5)	5 (12.5)	8 (10.0)
Total	40	40	80 (100.0)

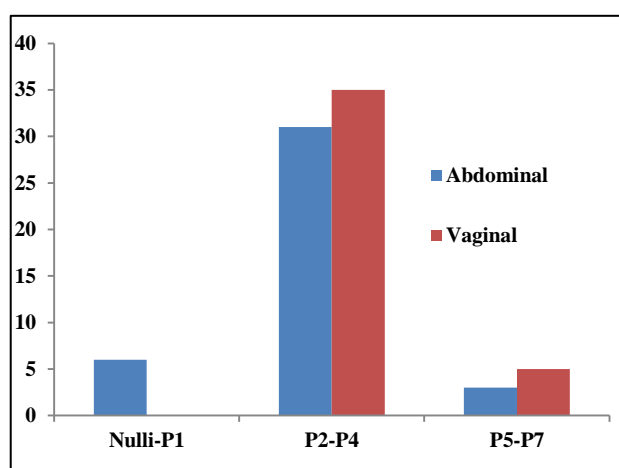


Figure 2: Parity wise distribution of cases.

The uterine size was 10-12 weeks in maximum number of patients in both the groups (Table 3).

Table 3: Size of the uterus in gestational weeks.

Weeks	Abdominal N (%)	Vaginal N (%)	Total N (%)
<10 weeks	-	17 (42.5)	17 (21.25)
10-12 weeks	21 (52.5)	17 (42.5)	38 (47.5)
12-14 weeks	12 (30.0)	6 (15.0)	18 (22.5)
>14 weeks	7 (17.5)	-	7 (8.75)
Total	40	40	80 (100)

$X^2 = 0.656$; $df = 1$; $P > 0.05$.

The mean blood loss in TAH was 169.88 ml and in NDVH it was 90.13 ml. This difference was statistically significant (p value<0.05) (Table 4, Figure 3).

Table 4: Type of operation and blood loss.

Quantity of blood (ml)	Abdominal N (%)	Vaginal N (%)	Total N (%)
50-100	-	32 (80.0)	32 (40.0)
100-150	-	6 (15.0)	6 (7.5)
150-200	9 (22.5)	1 (2.5)	10 (12.5)
>200	31 (77.5)	1 (2.5)	32 (40.0)
Total	40	40	80 (100.0)

Blood loss

Group	Blood loss (ml) mean±SD
Abdominal	169.88±37.91
Vaginal	90.13±37.68

$X^2=72.53$; $df= 3$; $p<0.05$ (highly significant).

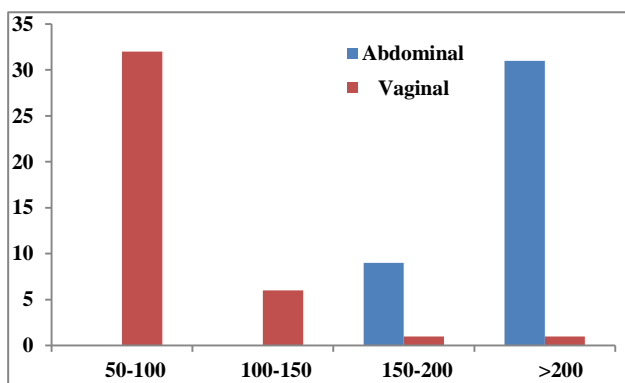


Figure 3: Type of operation and blood loss.

Table 5: Operating time for surgery.

Time in minutes	Abdominal N (%)	Vaginal N (%)	Total N (%)
0-60	-	5 (12.5)	5 (6.25)
60-120	5 (12.5)	29 (72.5)	34 (42.5)
120-180	28 (70.0)	6 (15.0)	34 (42.5)
180-240	7 (17.5)	-	7 (8.75)
Total	40	40	80

$X^2=43.18$; $df= 3$; $p< 0.05$ (highly significant).

The mean operating time for TAH was 169.88 minutes and in NDVH it was 102.63 minutes. This observation was statistically significant (p value< 0.05) (Table 5).

The postoperative complications like febrile morbidity, UTI, wound gaping were observed to be associated with the TAH group (Table 6).

Table 6: Post-operative complications.

Complications	Abdominal (%)	Vaginal (%)
UTI	5 (12.5)	-
Fever	3 (7.5)	-
Gaping on wound	2 (5.0)	-
1 unit PRBC	3 (7.5)	1 (2.5)
Bladder injury	-	1 (2.5)
No complications	27 (67.5)	38 (95.0)
Total	40	40

Pain score on day 3 (VAS) was between 0-3 in 57.5% patients in vaginal group which was statistically significant compared to abdominal group in which VAS was between 6-10 in 92.5% cases (p value< 0.05) (Table 7, Figure 4).

Table 7: Pain score on day 3 (VAS).

Pain score on day 3	Abdominal N (%)	Vaginal N (%)	Total N (%)
0-3	-	23 (57.5)	23 (28.75)
3-6	3 (7.5)	16 (40.0)	19 (23.75)
6-10	37 (92.5)	1 (2.5)	38 (47.50)
Total	40	40	80 (100.0)

$X^2 = 66.00$; $df = 2$; $P < 0.05$ (highly significant).

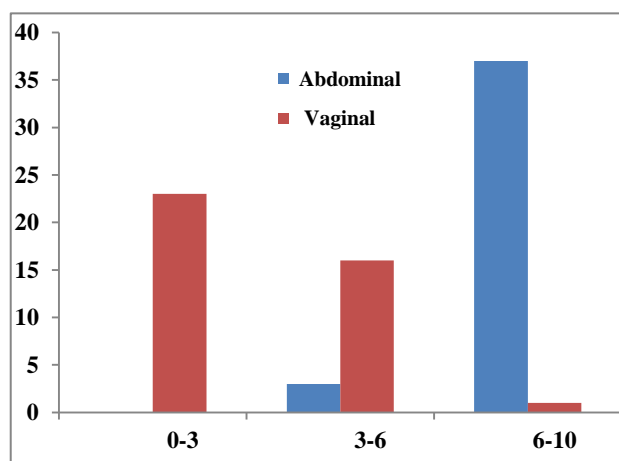


Figure 4: VAS score on day 3.

The fit for discharge period was 0-4 days in 80% cases in vaginal group compared to 4-7 days in abdominal group which showed statistical significance (p value< 0.05) (Table 8).

Table 8: Fit for discharge.

Number of days	Abdominal N (%)	Vaginal N (%)	Total N (%)
0-4	-	32 (80.0)	32 (40.0)
4-7	29 (72.5)	8 (20.0)	37 (46.25)
>7days	11 (27.5)	-	11 (13.75)
Total	40	40	80 (100.0)

$\chi^2 = 54.919$; $df = 2$; $P < 0.05$ (significant).

DISCUSSION

It is well known that most of the cases of fibroid uterus land in abdominal hysterectomy. Vaginal hysterectomies are usually performed for prolapsed uteri. Various studies have proven the superiority of vaginal route even for enlarged uteri.³⁻⁵ Techniques like bisection, morcellation, myomectomy and coring have made vaginal route feasible for fibroids. A majority of studies have compared the various routes of hysterectomies in benign gynecological conditions.⁶⁻⁸

The mean age in our study in abdominal group was 43.7 and in vaginal group was 41.7 years. The difference in mean age in both the groups was not significant. In our study most of the patients were in the age group of 40-49 years of age which was well compared with the study carried out by Tariq Miskry et al.⁹ The mean parity in our study was 2-4 in both the groups. The mean uterine size in both our study groups was 12-14 weeks. Similar findings were quoted by Benassi L et al in their prospective, randomized study in which 60 vaginal hysterectomies were compared with 59 abdominal hysterectomies. There were no major differences in patient age, parity, and uterine weight between the two groups.¹⁰ These results were comparable with our study findings.

Dorsey et al in his study showed that duration of surgery was 30 minutes longer for TAH than for VH.¹¹ The eVAL trial showed that average duration of surgery in abdominal group was 50 minutes and vaginal group was 39 minutes.¹² Chen B et al noted that mean operating time was significantly shorter in vaginal group (mean 65.2 minutes) than in abdominal group (mean 95.6 minutes).¹³ In our study we found that the mean operating time in TAH was 170 minutes and in NDVH it was 102 minutes which was statistically significant. This is in accordance to the quoted studies.

Aniuliene et al in their study concluded that significantly higher blood loss was observed during abdominal hysterectomy as compared to vaginal hysterectomy.¹⁴ Chen B et al reported significantly less blood loss in vaginal group (mean 30.4 ml) compared to abdominal group (mean 70.3 ml).¹³ The average blood loss in TAH group in our study was 80 ml more than the NDVH group. Thus, we could correlate with similar studies comparing the abdominal and vaginal routes for

hysterectomy and found that amount of blood loss was more in the abdominal route.

In the TAH group in our study 12.5% cases developed UTI, 7.5% developed febrile morbidity, wound gaping 5% and blood transfusion 7.5%. This is similar to the study by Shanthini et al who reported 5.7% incidence of wound infection in the TAH group.¹⁵ Kovac et al reported similar outcome in their comparative study between abdominal and vaginal routes.¹⁶ Bharatnur et al in their study showed that overall post-operative complications are more in abdominal hysterectomy group which is similar to our results.¹⁷ In our study there was one incidence of bladder injury in the NDVH group which was identified and repaired at the time of primary surgery. The incidence of bladder injury was higher in NDVH group in our study similar to the findings of Dicker et al.¹⁸

Ray et al in their comparative study of NDVH with AH in relation with morbidity found the mean post-operative day 3 VAS to be 6.48 in TAH group and 2.88 in NDVH group which is statistically significant.¹⁹ In our study we found the mean VAS in NDVH group to be 1.5 and TAH group to be 8. We concluded that the pain scoring was significantly affected by the route selected for hysterectomy.

In our study 80% NDVH cases were fit for discharge by day 4 and 72% were fit for discharge after day 4. We found this highly significant with p value < 0.05 . The hospital stay was longer than TAH group in our study in consistence to the study done by Ottosen et al.²⁰ Chen Bet al observed in their study that the mean hospital stay in the vaginal hysterectomy group was 4.5 days which was significantly shorter than the abdominal hysterectomy group (6.3 days).¹³

CONCLUSION

The present study was undertaken to provide objective evidence in support of vaginal route for the management of fibroid uteri. There is paucity of research material especially in the state of Uttarakhand in this subject. In our study we have concluded that NDVH for fibroid is associated with less operative time and blood loss. It also gives quicker post-operative recovery, better pain scores, shorter hospitalization and less morbidity. Therefore, we conclude that NDVH should be offered to cases with diagnosis of fibroid uterus.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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