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Original Research Article

Comparative study of non-descent vaginal hysterectomy with abdominal hysterectomy

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ABSTRACT

Background: Hysterectomy is one of the most common operation performed in Obstetrics and Gynecology next to caesarean section. Due to its advantages vaginal hysterectomy are more and more performed now. Only drawback is lack of expertise. Present study focuses on comparison between outcomes in abdominal versus vaginal hysterectomy and to determine which route of hysterectomy is superior, safer and effective.
Methods: The study is a prospective study conducted in the department of obstetrics and Gynecology. Civil hospital, Ahmedabad between the period of Jan 2016 to 2017. Of 100 patients. Fifty patients who underwent hysterectomy by vaginal route are taken as study group A, and the remaining 50 patients who underwent by the abdominal route are taken as study group B.
Results: Majority of women undergoing hysterectomy were in age group of 30-50 years; postmenopausal age group women were less;13 NDVH and 5 in AH. Majority of the women were multipara in both age groups. Menorrhagia was found to be major indication with 42 in NDVH and 40 in AH. There is much significant difference in the postoperative pain in both groups with less in NDVH group. There is not much significant difference in blood loss in both the groups. Postoperative complications were more with AH.
Conclusions: Thus, it can be concluded that NDVH is feasible, safe and provide more patient comfort without increasing the duration of surgery and other post-operative complications.

Keywords: Abdominal hysterectomy, Hysterectomy, Non-descent vaginal hysterectomy

INTRODUCTION

Hysterectomy is one of the oldest operations performed in the female pelvis. It dates back to the era before anaesthesia and antibiotics. It has under gone many modifications in technique and indication over time.

Even today it still undergoes evolution in surgical technique and indication, like any other scientific discovery, will forever go through stages of perfection.

The name hysterectomy was coined for its role in the treatment of hysteria. The condition of premenstrual tension was not well understood as we know it today. It was understood to be a form of hysteria.

Removal of the uterus and ovaries was said to treat the condition and thus the name hysterectomy was found appropriate, as it was believed that women with intact uteruses had more hysteria and premenstrual tension than those without the uterus.

Due to its advantages vaginal hysterectomies are more and more performed now, only drawback is lack of expertise. In 1990, ACOG has established the Guidelines for choosing the route of hysterectomy stating that vaginal hysterectomy can be performed in patient with mobile uterus whose uterine size is no larger than 12 weeks size.[1,2]

ACOG also acknowledges that the choice of approach should be based on the surgical indication, the patient's anatomical condition, data supporting the approach, informed patient preference, and the surgeon's expertise and training.

ACOG guidelines have focused on women with mobile non-prolapsed uterus no larger than 12 weeks benign conditions confined to the uterus, to compare outcomes in abdominal versus vaginal hysterectomy and to determine which route of hysterectomy is superior, safer and effective. Abdominal approach is associated with a higher incidence of complications, longer lengths of stay than vaginal hysterectomy.

METHODS

The study was a Retrospective study conducted in the Department of Obstetrics and Gynaecology, Civil Hospital, Ahmedabad between the period of Jun 2016 to Dec 2017. 100 patients requiring hysterectomy for benign gynaecological disorders without prolapse were included in the study. All patients underwent physical, ultrasound and biopsy examinations. Of the 100 patients, 50 patients who underwent hysterectomy by vaginal route were taken as study group A, and the remaining 50 patients who underwent by the abdominal route were taken as study group B.

Inclusion criteria

- Uterine benign diseases such as fibroids, adenomyosis and CIN.
- Gynaecological symptoms that justified total hysterectomy.
- Patients without fertility requirement.
- Patients who gave informed consent to participate.

Exclusion criteria

- Uterine size more than 12 weeks of gravid uterus.
- Highly restricted uterine mobility.
- Malignancy.
- Patients with fertility requirement.

Time taken for surgery: This included the time duration of surgery from the time of incision till the end of the procedure and was noted by the assistant.

Intraoperative injury and blood loss: Any injury to bowel, bladder or ureter was noted.

Pain during postoperative period: Pain scoring was done on numeric scale from 1 to 10 cm. Fever during the postoperative period: This was assessed and charted 4 hourly. Fever is defined as temperature more than or equal to 38 degree Celsius on 2 occasions 4 hours apart excluding the first post-operative day.

Wound infection: The presence of wound indurations or evidence of any frank infection if present were assessed, the patients were followed up till the date of discharge. Any form of infection like respiratory tract infection, urinary tract infection were looked for and compared. Duration of hospital stay was noted in both groups and compared. Patients were followed up till the date of discharge. The data was analyzed using Microsoft excel software version.

RESULTS

100 patients requiring hysterectomy for benign gynaecological disorders without prolapse During the period of Jun 2016 to Dec 2017 were included in the study. All patients underwent physical, ultrasound and biopsy examinations. Of the 100 patients, 50 patients who underwent hysterectomy by vaginal route were taken as study group A, and the remaining 50 patients who underwent by the abdominal route were taken as study group B. Table 1 results highlighted that in NDVH group, 60% of the patients fall in the age group range between 41-50 years, 34% in the range of 30-40 years and 6% in the range of 51-60 years. In the AH group 40% patients were between 41-50 years, 50% between 30-40 years and 10% in the range between 51-60 years. From these results it showed that majority of the patients in both groups were between 41-50 years.

Table 1: Age group

Age Group (years)	NDVH (N = 50)		AH (N = 50)	
	No.	**%**	**No.**	**%**
30-40	17	34	25	50
41-50	30	60	20	40
51-60	03	06	05	10

Table 2 result depicted that 98% of the patients in NDVH group were multipara with 2% primipara patients and 96% of the patients in AH group were multipara with 2 % primipara and 2 % nullipara.

Table 2: Parity

Parity	NDVH (N = 50)		AH (N = 50)	
	No.	**%**	**No.**	**%**
Nulli	0	0	01	2
Primi	04	8	01	2
Multi	46	92	48	96

Table 3 depicted that in NDVH group, there were 3 cases of Previous Caesarean section, 11 cases of Lap TL, 13 cases of Abdo TL, 1 case of appendicectomy. In the AH

group, there were 6 cases of Previous Caesarean section, 9 cases of Lap TL, 15 cases of Abdo TL, 2 cases of appendicectomy, 1 case of Lap Cholecystectomy.

Table 3: Previous surgeries.

Previous surgery	NDVH (N = 50)		AH (N = 50)	
	No.	%	No.	%
Caesarean section	03	06	06	12
Appendicectomy	01	02	02	04
Lap. cholecystectomy	0	00	01	02
Lap.TL	11	22	09	18
Abdo TL	13	26	15	30

Above table 4 results suggested that operative time was less with NDVH as compared to AH. In NDVH group, 88% cases had time less than or equal to 60 minutes and 12% of cases had time between 61 to 120 minutes. In AH group, 54% cases had time less than or equal to 60 minutes and 46% of cases had time between 61 to 120.

Table 4: Time taken for surgery.

Time (hours)	NDVH (N = 50)		AH (N = 50)	
	No.	%	No.	%
≤1	44	88	24	44
1-2	06	12	26	56

Above table 5 result showed that Menorrhagia seems to be major indication with 42 in NDVH and 40 in AH. In NDVH group, 84% of the patients had menorrhagia, 12% had cervicitis, 4% had adenomyosis, 4% had endometrial hyperplasia, 4% had fibroid, 2% had cervical polyp. In AH group, 80% of the patients had menorrhagia, 2% had adenomyosis, 4% had fibroid. Postoperative stay was prolonged in cases with AH as compared to NDVH. In NDVH group, 80% cases had hospital stay <= 4 days and 20% had stay >4 days.

Table 5: Indications.

Indications	NDVH (N = 50)		AH (N = 50)	
	No.	%	No.	%
Fibroid	02	04	02	04
Menorrhagia	42	84	40	80
Cervicitis	06	12	0	0
Adenomyosis	02	04	01	02
Endometrial hyperplasia	02	04	0	0
Cervical Polyp	01	02	0	0

In AH group, all cases had stayed >= 4 days with 70 % have been stayed between 4-8 days and 30% had stay > 8 days (Table 6). Regarding the pain scoring on postoperative day-3, above table no 7-result showed that mean pain score in NDVH group was 1.96 cm whereas mean pain score in TAH group was 6.16 cm. Postoperative complications were more with AH. 26% of patients who underwent AH had fever, 6% had wound gap and infection.

Table 6: Post-operative stay.

Post-operative stay	NDVH		AH	
	No.	%	No.	%
≤4 days	40	80%	0	0
4-8 days	10	20%	35	70%
>8 days	00	0%	15	30%

Table 7: Post-operative pain.

Postoperative pain	NDVH	AH
Scale 1-10 (Mean)	1.96	6.16

No incidence of wound infection was found in NDVH group. Fever occurred more in AH group as compared to the NDVH group. There was no significant difference in Postop blood transfusion in both the groups (Table 8).

Table 10: Post-operative complication

Complications	NDVH (N = 50)		AH (N = 50)	
	No.	%	No.	%
Urinary retention	04	08	01	02
Fever	05	10	13	26
Wound complication	0	0	03	06
Need for transfusion	04	08	06	12

DISCUSSION

In this study In NDVH group, 60% of the patients fall in the age range between 41-50 years, 34% in the range of 30-40 years and 6% in the range of 51-60 years. And in the AH group 40% patients were between 41-50 years, 50% between 30-40 years and 10% in the range between 51-60 years. From these results it showed that majority of the patients in both groups were between 41-50 years. In relation to age, similar studies comparing NDVH and AH have following results: Michel S, Hoffman et al NDVH-41.9 years; AH -42.7 years.[3] Dewan Rupali et al NDVH – 44 years; AH -42.5 years.[4] Robert Kovac S NDVH -43.1 years; AH -47.2 years.[5] Thus age results in present study were comparable to the standard one. It is between the ages of 40-50 years that most women suffer from abnormal uterine bleeding.

In this study, Table 2 result showed that 98% of the patients in NDVH group were multipara with 2% primipara patients and 96% of the patients in AH group were multipara with 2 % primipara and 2 % nullipara. Other studies in relation to parity suggest majority of women were multipara. Average parity in other study result showed that in Michel S, Hoffman et al NDVH-2.8; AH-2.73, Dewan Rupali et al NDVH -3.5; AH -2.54 and Robert Kovac S NDVH- 2.25; AH- 0.835. Thus parity in present study is comparable to the standard studies. In present study In NDVH group, there were 3

cases of Previous Caesarean section, 11 cases of LapTL, 13 cases of Abdo TL, 1 case of appendicectomy and In the AH group, there were 6 cases of Previous Caesarean section, 9 cases of LapTL, 15 cases of Abdo TL, 2 cases of appendicectomy, 1 case of Lap. Cholecystectomy. This study was comparable with other study including, the study by Pradeep Kumar Garg and co-workers296, there was one case of previous C. Sin the NDVH group. No patient in the TAH group had any previous surgical history and the study by Singh Abha et all, there were 14 cases of CS and one case of tubectomy both in VH group and in TAH group.

In this study In NDVH group, 88% cases had time less than or equal to 60 minutes and 12% of cases had time between 61 to 120 minutes and In AH group, 54% cases had time less than or equal to 60 minutes and 46% of cases had time between 61 to 120 minutes.Using Fischer's test for statistical analysis, P value < 0.0001, suggesting that there is significant difference in time taken by 2 groups. Other study by Christian oftosen et all 2000 shows that duration of surgery is shorter for NDVH compared with TAH. The difference in the time between the two groups when compared is statistically significant.[7]

In this study Menorrhagia was the major indication for hysterectomy with 84% cases in NDVH group and 80% cases in AH group. there was not much of a difference in the number of patients regarding the indications for surgery between the two study groups. Similarly, other study by Pradeep Kumar Garg and co-workers29, Singh Abha et all and Dewan Rupali et all result showed that Fibroid and DUB were the main indications for surgery.[4,6] Mean blood loss in the NDVH group was 164.78 ml; mean blood loss in the TAH group was 166.2 ml. According to T test for statistical analysis, P value > 0.9999 so the difference is not significant. In the clinical analysis done by Pradeep Kumar Garg and co-worker.6 mean blood loss in the NDVH group was 286 ml whereas that in the TAH group was 310 ml.

In this study Regarding the pain scoring on postoperative day-3, mean pain score in NDVH group was 1.96 cm. Mean pain score in TAH group was 6.16cm.The P value <0.05 on T test, suggesting that the difference in the pain scoring between the two groups is found to be statistically significant and This was also proved by studies conducted by Pradeep Kumar Garg and co-workers, S.Taylor and co-workers as well as Dewan Rupali and co-workers.[4,6,8] Mean duration of hospital stay in NDVH group was 1.2 day whereas it was 4.3 days for TAH group in the study conducted by Pradeep Kumar Garg and co-workers.[6] In the study by Singh Abha et all, Using Chi Square test, P value <0.0001 suggesting that the difference in the duration of hospital stay when the two groups were compared is statistically significant. In this study on analysis it was found that, no cases of wound infection were found in NDVH group, whereas 3 cases (6%) had wound complications in AH group. Of the 3 cases of wound gap in AH group, 2 belonged to overweight category concluding that obesity is contributing factor in wound complications. Statistically significant difference in the incidence of wound infection was found by Pradeep Kumar Garg and co-workers6. Similar conclusion was derived by Shailesh Kore and coworkers, S. Taylor and co-workers, Liu Sui-Ling and co-workers and Dewan Rupali and coworkers.[4,8-10] There were 26% cases of fever in AH group and 10% cases in NDVH group. Thus, it suggests that post-operative complications were more in AH group.

CONCLUSION

There was significant difference in the duration of surgery, less time with NDVH. NDVH was associated with decreased postoperative morbidity when compared to TAH. Length of hospital stay was significantly less for NDVH when compared to TAH.

Thus, it can be concluded that NDVH was feasible, safe and provide more patient comfort without increasing the duration of surgery and other post-operative complications.

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