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COMPARATIVE STUDY OF NON DESCENT VAGINAL HYSTERECTOMY WITH TOTAL ABDOMINAL HYSTERECTOMY

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ABSTRACT

Background - Hysterectomy is the second common surgery performed by gynaecologists. Today, there are many different approaches to hysterectomy. The uterus can be removed via the abdominal route, transvaginal or laparoscopically. Although abdominal hysterectomy continues to be the most common approach worldwide, there is good evidence that vaginal and laparoscopic hysterectomies are associated with fewer complications, a shorter hospital stay, more rapid recovery, and lower overall costs. **Methods** - It is a prospective study which has been carried out to compare vaginal hysterectomy and abdominal hysterectomy in non-descent cases at Tertiary care centre during Jan 2020 to June 2021. Total 120 cases, 60 cases of non-descent vaginal hysterectomy and 60 cases of total abdominal hysterectomy. **Results** - Our study was comparable to other studies in terms of all parameters. NDVH had shorter duration of surgery, less post operative pain, short duration of stay in hospital, less amount of blood loss, early post-op ambulation, less post-op complications as compared to TAH. NDVH should be preferred method of hysterectomy in benign conditions as it is safe, cost effective and has better outcome.

KEYWORDS: Hysterectomy, comparsion, blood loss, post op ambulation.

INTRODUCTION

Hysterectomy is the second common surgery performed by gynaecologists. Today, there are many different approaches to hysterectomy. The uterus can be removed via the abdominal route, transvaginal or laparoscopically. Although abdominal hysterectomy continues to be the most common approach worldwide, there is good evidence that vaginal and laparoscopic hysterectomies are associated with fewer complications, a shorter hospital stay, more rapid recovery, and lower overall costs.

In US, approximately 600,000 hysterectomies are being performed each year.[1] This means that about 1/3rd of women would have had hysterectomy done by the age of 60 yrs. In India no such national statistics are available. But a study conducted in Haryana (Northern states) showed the incidence of hysterectomy as 7% among married females above 15 years of age.[2] Another study conducted in Gujarat (Western state) pointed that 7-8 % of rural & 5% of urban women had hysterectomy done at an average age of 37 years.[3]

The common belief that bigger, bulky uteri, endometriosis, Pelvic inflammatory disease, previous surgeries, and narrow vagina make vaginal hysterectomy difficult to be performed are not considered to be contra-indications for non-descent vaginal hysterectomy and can be successfully attempted in all these conditions.

It has a clear advantage over the abdominal route in obese women. However, proper selection of patients is a critical factor in determining the success of vaginal procedures. Lack of expertise and the curve in learning the technique also has major impact on the number of procedures performed.

Advances in anaesthesia, transfusion services, surgical techniques and availability of antibiotics led to hysterectomy becoming the most common non-pregnancy related major surgical procedure in women.

Thorough review of literature for comparison of the risks and benefits of hysterectomy shows that vaginal approach has potential health and economic benefits of greatly reduced post-operative complications, morbidity and pain.

Now emphasis on minimally invasive surgery has led to a resurgence of interest and importance of VH for non-prolapse indications, i.e. non-descent vaginal hysterectomy (NDVH) as the scarless hysterectomy. It offers shorter hospital stay which lowers the economic burden over the patients. They return to normal day to day activities faster, as the recovery time is shorter than those undergoing abdominal surgeries.

The present study is a comparison of the abdominal hysterectomy and non-descent vaginal hysterectomy.

Though non-descent vaginal hysterectomy is a more difficult procedure due to the limited surgical exposure but is rewarding for the patient and the surgeon once the skill of this surgery is acquired.

METHODS

It is a prospective study which has been carried out to compare vaginal hysterectomy and abdominal hysterectomy in non-descent cases at Tertiary care centre during Jan 2020 to June 2021. Total 120 cases, 60 cases of non-descent vaginal hysterectomy and 60 cases of total abdominal hysterectomy.

This study was conducted on patients who were scheduled to undergo hysterectomy for benign conditions. Cases for study were taken from those admitted for hysterectomy fulfilling inclusion criteria via history and through examination and aided by ancillary measures like pap smear, cervix biopsy, D & C and USG(A+P). Routine investigations including complete hemogram, urine analysis., blood grouping and Rh typing, random blood sugar, blood urea, serum creatinine, ECG, USG abdomen and pelvis, HIV, HBsAg were done as preoperative work up. Operating time for vaginal hysterectomy was the time calculated from the start of incision at cervico-vaginal junction to placement of vaginal pack while for abdominal hysterectomy it was time calculated from the start of skin incision to closure of skin incision. Blood loss was estimated by preoperative and post-operative(day-2) haemoglobin and by estimating the number and surface area of mops soaked. Intra operative complications such as injury to bowel/bladder or ureter and haemorrhage were noted. Post operatively complications if any like fever, nausea, vomiting, post operative pain, urinary tract infection and abdominal or vaginal wound infection were noted in both the groups. Duration of stay in hospital was calculated as number of days of stay in hospital after surgery including the day of surgery. Post operative pain scoring was done according to visual analogue scale (VAS) on post operative day 3.

Inclusion criteria

All cases of non-descent vaginal hysterectomy and abdominal hysterectomy in non-descent uteri less than 18wks in size and in benign condition.

Exclusion criteria

- Uterus size more than 18wks of gravid uterus.
- Patients not willing for participation in study.
- Prolapsed uterus.
- Malignant conditions

RESULTS

In TAH, majority of the patients belonged to age group of 35-45 years of age and in NDVH, majority belonged to 46-55 years of age The mean age group for non-descent vaginal hysterectomy was 45.8years of age and in total abdominal hysterectomy was 48.8 years of age.

Table 01: Distribution of patients in two surgery groups according to age groups.

	TAH		NDVH	
Age Group	**No.**	**Percentage**	**No.**	**Percentage**
35-45	31	51.67	19	31.67
46-55	26	43.34	34	56.67
>56	03	5	07	11.67
Total	60	100	60	100
	Mean age – 45.8		Mean age – 48.8	

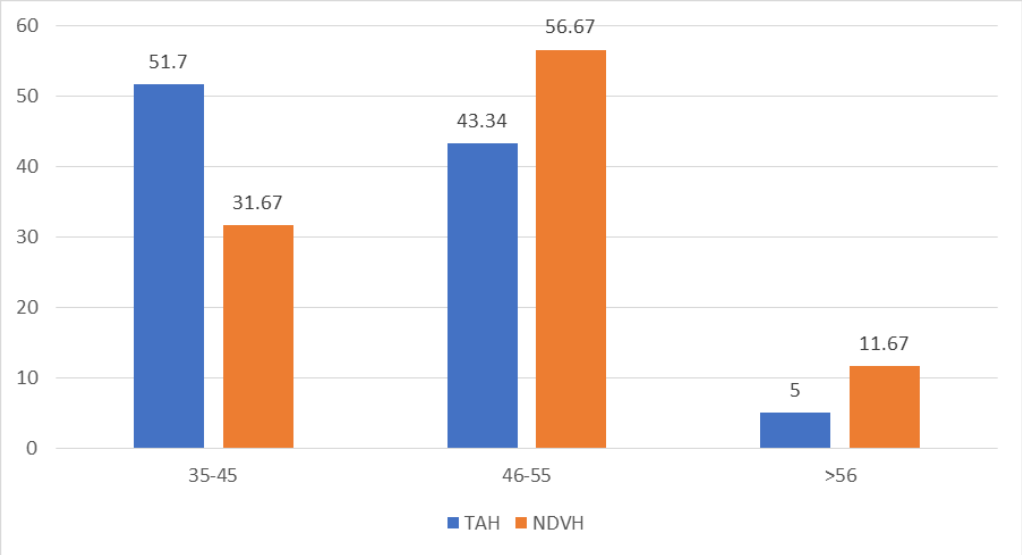

Figure 1: Distribution of patients in two surgery groups by age groups.

Table 02: Distribution of patients in two surgery groups by Parity.

	TAH		NDVH	
Parity	**No.**	**Percentage**	**No.**	**Percentage**
Nulligravida	05	08.3	01	1.7
1	02	03.3	03	05
2	19	31.7	26	43.3
More than 3	34	56.7	30	50
Total	60	100%	60	100%

Majority of patients were multipara in both groups, TAH as well as NDVH.

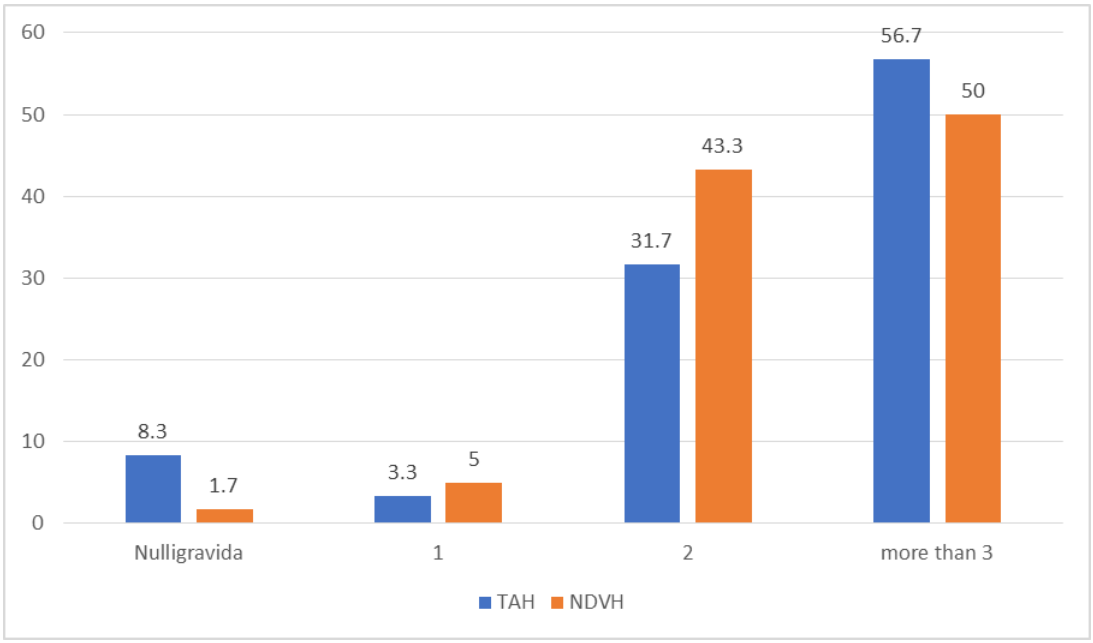

Figure 02: Distribution of patients in two surgery groups by Parity.

Table 3: Comparison of two surgery groups with respect to co morbid conditions.

	TAH		NDVH	
Comorbidity	**No.**	**Percentage**	**No.**	**Percentage**
Anaemia	12	20	07	11.7
Hypertension	07	11.7	17	28.4
Diabetes mellitus	05	8.4	06	10
Obesity	02	3.34	09	15
Hypothyroidism	06	10	05	8.4
Bronchial asthma	01	1.7	04	6.7
Ischemic heart disease	00	00	03	5
Pulmonary koch's	4	6.67	1	1.7
Anxiety disorder	01	1.7	00	00
Epilepsy	01	1.7	00	00
No comorbidities	29	48.4	23	38.4

In TAH, anemia was major co- morbidity, followed by hypertension. In NDVH, hypertension was major co-morbidity, followed by obesity. In TAH, 51.6% of patients had comorbid conditions while in NDVH, 61.6% of patients had comorbid conditions like anaemia, diabetes mellitus, epilepsy, pulmonary koch's, bronchial asthma, obesity, hypertension, hypothyroidism, anxiety disorder.

In obese patients, NDVH is more preferred than TAH as it is difficult to do TAH in obese patients and there are more chances of wound infection as post op complication.

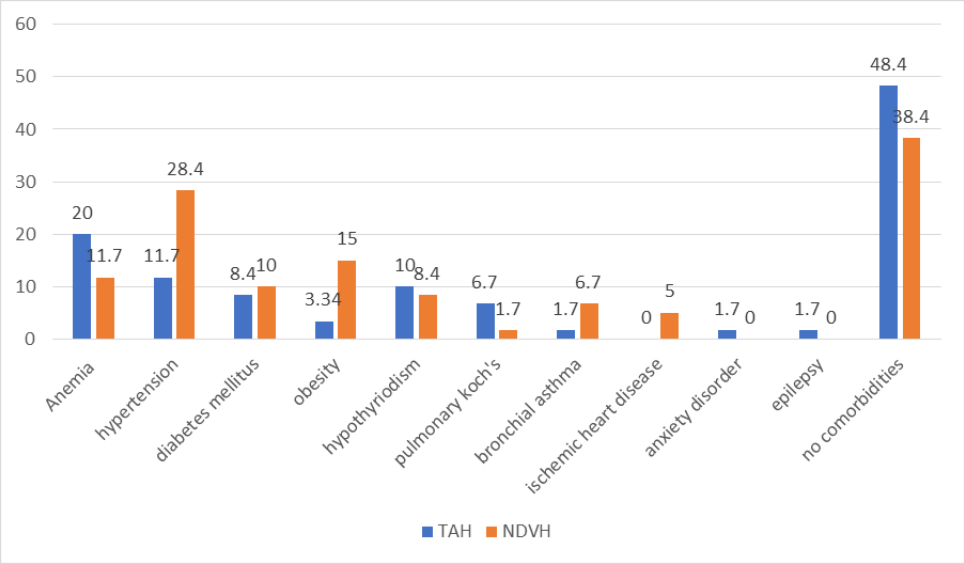

Figure 3: Comparison of two surgery groups with respect to co morbid conditions.

Table 4: Comparison of two surgery groups with respect to Previous surgeries.

Previous Surgeries	TAH		NDVH	
	No.	Percentage	No.	Percentage
Previous one LSCS	3	5 %	4	6.7 %
Previous two LSCS	3	5 %	2	3.3 %
Myomectomy	3	4.9 %	0	0 %
Exploration for ectopic pregnancy	1	1.6 %	0	0 %
Intestinal resection and anastomosis	1	1.6 %	0	0 %
Appendicetomy	2	3.3 %	1	1.6 %
Spine surgery	1	1.6 %	1	1.6 %
Cholecystectomy	1	1.6 %	0	0 %
No previous surgeries	45	83.4 %	52	86.7 %

In cases of TAH, 16.6% of patients had history of previous surgeries, while in cases of NDVH, 12.4% of patients had history of previous surgeries.

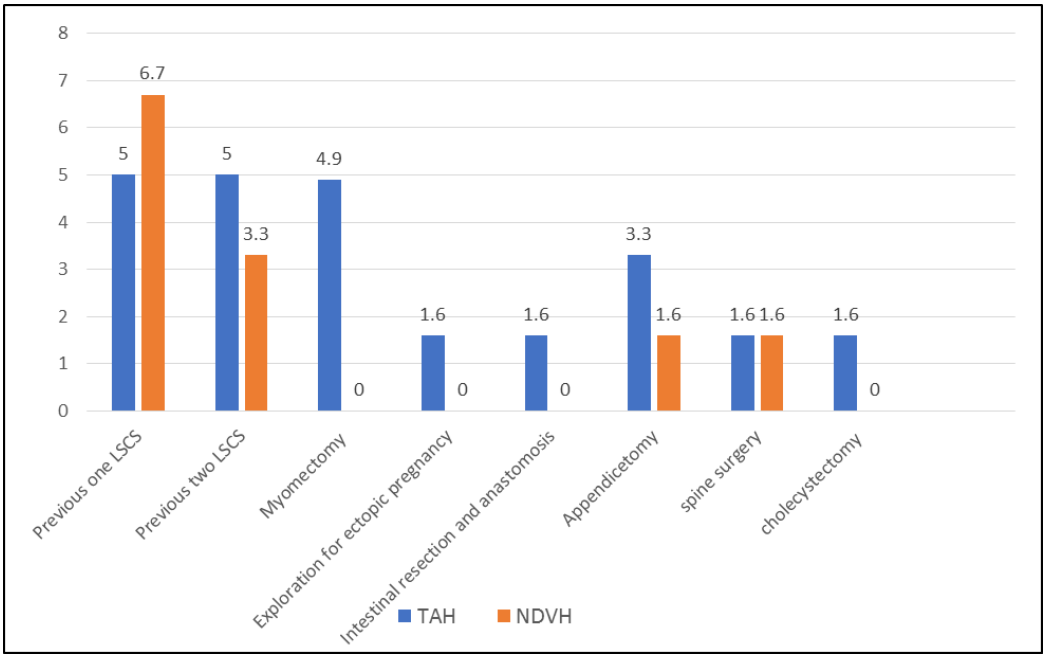

Figure 4: Comparison of two surgery groups with respect to Previous surgeries.

Table 05: Distribution of patients according to Indications.

		TAH		NDVH	
S. No.	**Indication**	**No.**	**Percentage**	**No.**	**Percentage**
1	AUB - L	28	46.6	19	31.7
2	AUB - A	06	10	18	30
3	Chronic Pelvic Pain	05	8.3	03	05
4	AUB - N	17	28.3	08	13.3
5	AUB - P	01	1.7	03	05
6	AUB-M	01	1.7	00	00
7	Post Menopausal Bleeding	01	1.7	06	10
8	Associated Ovarian Complex Cyst	01	1.7	03	05

AUB- A (adenomyosis), AUB-L (leiomyoma), AUB-N (not otherwise specified), AUB-P (polyp), AUB- M (malignancy or hyperplasia)

The most common indication of hysterectomy in both the groups is fibroid, followed by adenomyosis in NDVH and DUB (i.e. AUB-N, not otherwise specified) in TAH. While other indications in both the groups were endometrial polyp, postmenopausal bleeding, postmenopausal ovarian complex cyst, chronic pelvic pain.

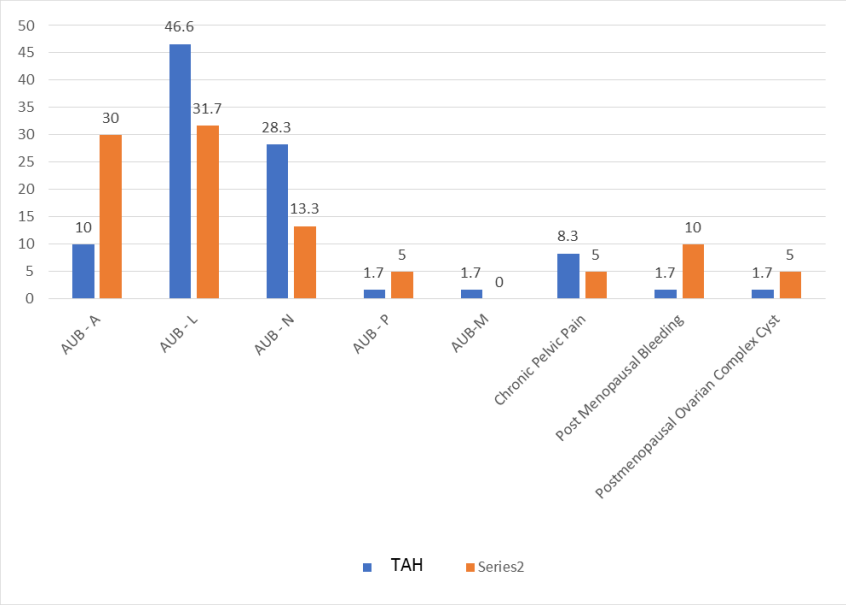

Figure 05: Distribution of patients according to Indication of surgery.

Table 06: Comparison of two surgery groups with respect to preoperative and postoperative Hb (gm%) by one way ANOVA test.

	TAH		NDVH	
	Pre Op	**Post Op**	**Pre Op**	**Post Op**
Mean	10.99	9.5	10.9583	10.2433
Std.Dev.	1.4227	0.9403	1.3762	1.2827

Based on pre & post-operative haemoglobin levels there is significant difference in blood loss among the two study groups.

The mean value of haemoglobin 10.99 gm% pre-operatively & 9.5 gm% post-operative in TAH group. The mean value of haemoglobin 10.95 gm% pre-operatively & 10.24 gm% post-operative in NDVH group.

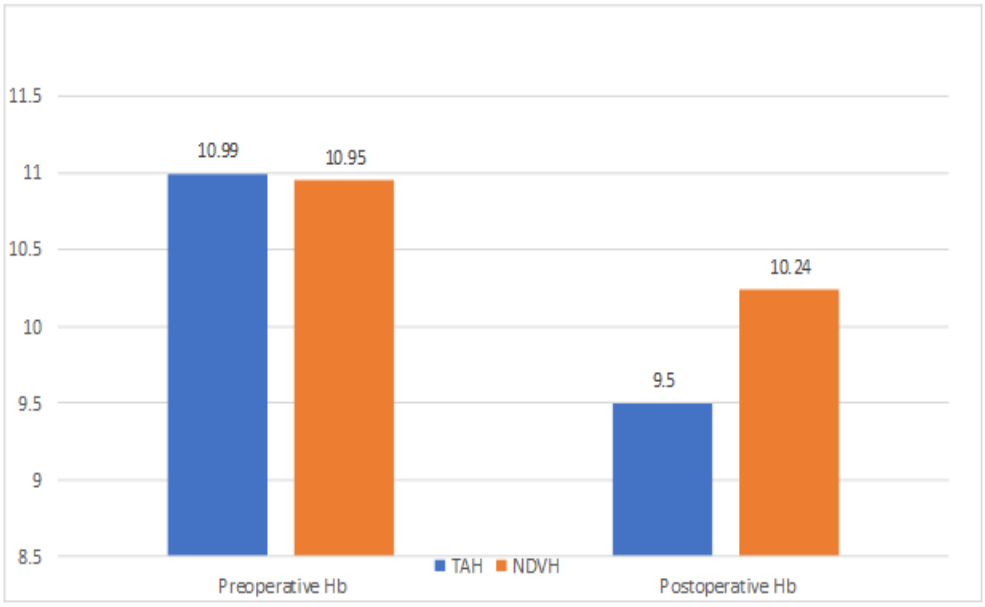

Figure 06: Comparison of two surgery groups with respect to preoperative and postoperative Hb (gm%) by one way ANOVA test

On comparing the pre & post-operative haemoglobin by paired t test in each study group there appears to be significant amount of blood loss in TAH group as compared to NDVH, as the p value is significant.

Table 07: Comparison of two surgery groups with respect to duration of surgery.

Duration of Surgery (mins)	TAH	NDVH
< 60mins	0	34
60-120mins	56	26
>120mins	4	0
Mean	90.5	55.8
Std. Dev.	23.5368	11.9147
	p value is <0.00001	

The mean duration of surgery in TAH is 90.5mins while in NDVH is 55.8mins. The p value is significant in duration of surgery of NDVH as compared to that of TAH.

The 4 cases of TAH where the duration of surgery is more than 120mins i.e. 2hrs had history of previous surgeries and out of the four, one case had intraoperative injury to bladder and also had history of previous one lscs and cholecystectomy. Remaining 3 cases had history of previous pelvic surgeries.

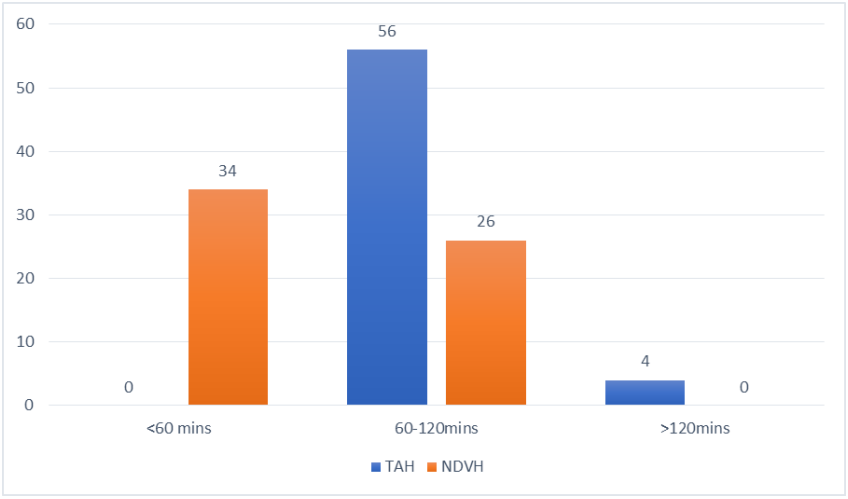

Figure 07: Comparison of two surgery groups with respect to duration of surgery by one way ANOVA test.

Table 08: Comparison of two surgery groups with respect to pain-scores.

		TAH		NDVH		
S. No.	**Pain Score**	**No.**	**Percentage**	**No.**	**Percentage**	**P Value**
1	0 – 3	13	21.7	44	73.34	**< 0.00001**
2	4 – 6	43	71.7	16	31.7	
3	>6	4	6.7	0	00	

By qualitative assessment of pain in postoperative period the p value is significant when NDVH is being compared to TAH. In TAH, 71.7% of patients had pain score between 4-6 on visual analogue scale on day 3 of postoperative while in NDVH, 73.34% of patients had pain score between 0-3 on visual analogue scale. Patient had less pain in NDVH group as compared to TAH group.

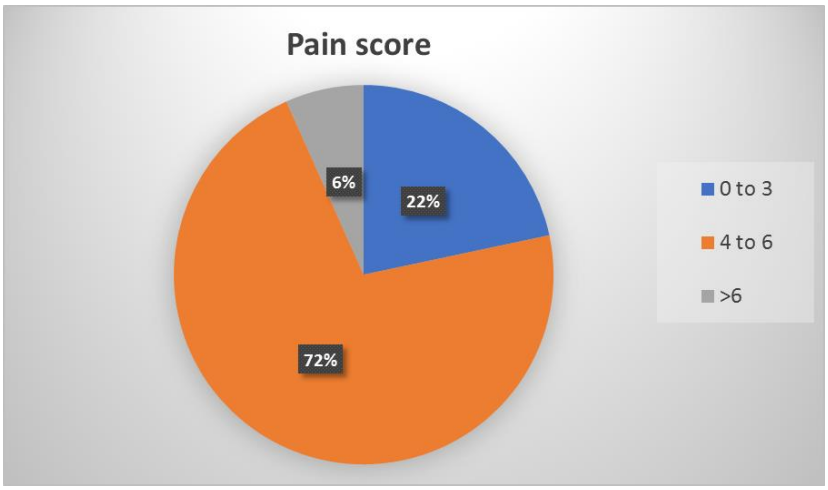

Figure 8: TAH surgery group with respect to pain score.

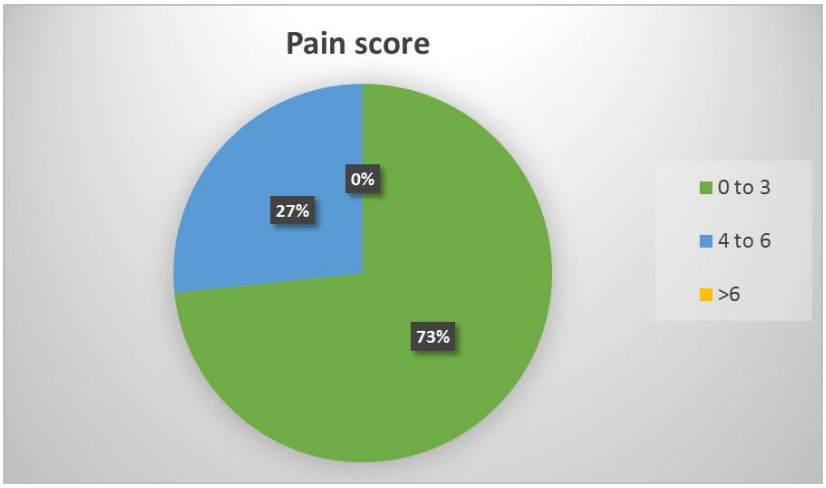

Figure 9: NDVH surgery group with respect to pain score.

Table 09: Comparison of two surgery groups with respect to mean hospital stay by one way ANOVA test.

Hospital stay (days)	**TAH**	**NDVH**
< 7days	6	33
7-14days	41	20
>14days	13	7
Mean	11.9667	7.933
Std.Dev.	5.7871	2.95

Mean duration of stay in hospital for TAH is 11.97days, while for NDVH is 7.9 days. Duration of stay in hospital was significant when TAH was compared to NDVH. Duration of stay in hospital is more for TAH as compared to NDVH. All patients those stayed for longer duration in hospital i.e. >14days had intraop complications i.e bladder injury or post op complications i.e wound infection, UTI, fever.

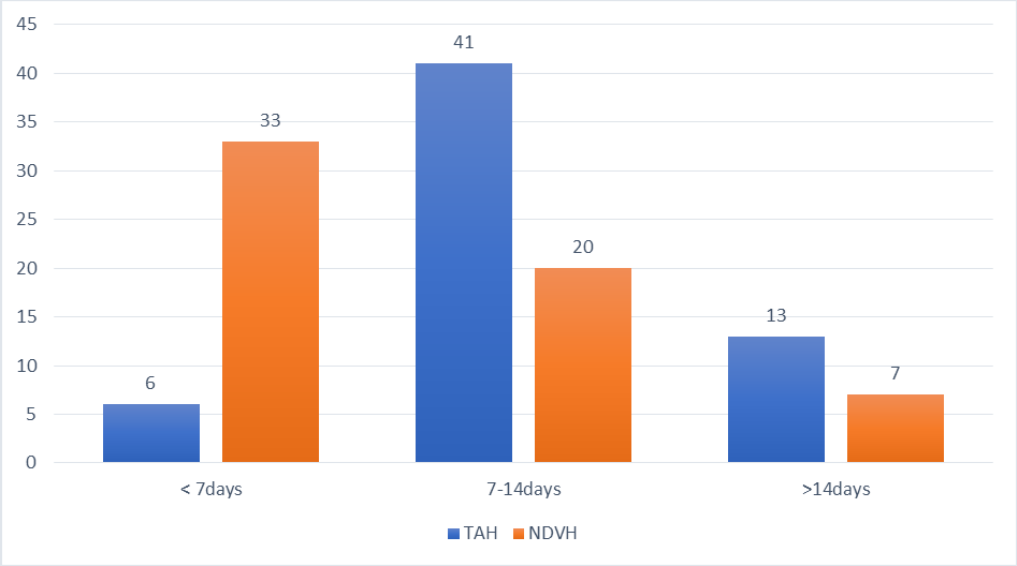

Figure 10: Comparison of two surgery groups with respect to mean hospital of stay.

Table 10: Comparison of two surgery groups with respect to mean Blood loss in ml by one way ANOVA test

	TAH	NDVH
<200ml	15	47
200-400ml	36	13
>400ml	9	0
Mean	275.8333	142.5
Std.Dev.	134.5084	76.1716

Mean blood loss in TAH was 275.83ml while in NDVH is 142.5ml.

There is significant difference was found when blood loss in ml was compared among two groups. Mean blood loss in NDVH lower than TAH.

In cases of TAH, with blood loss of more than 400ml, among the 9 cases, 4 cases had history of previous 2 lscs, 1 case had history of previous 1 lscs, 1 case had history of intestinal resection and anastomosis, 1 case had history of previous 1 lscs and myomectomy and 1 case had intraoperative injury to bladder and also had history of previous 1 lscs and cholecystectomy.

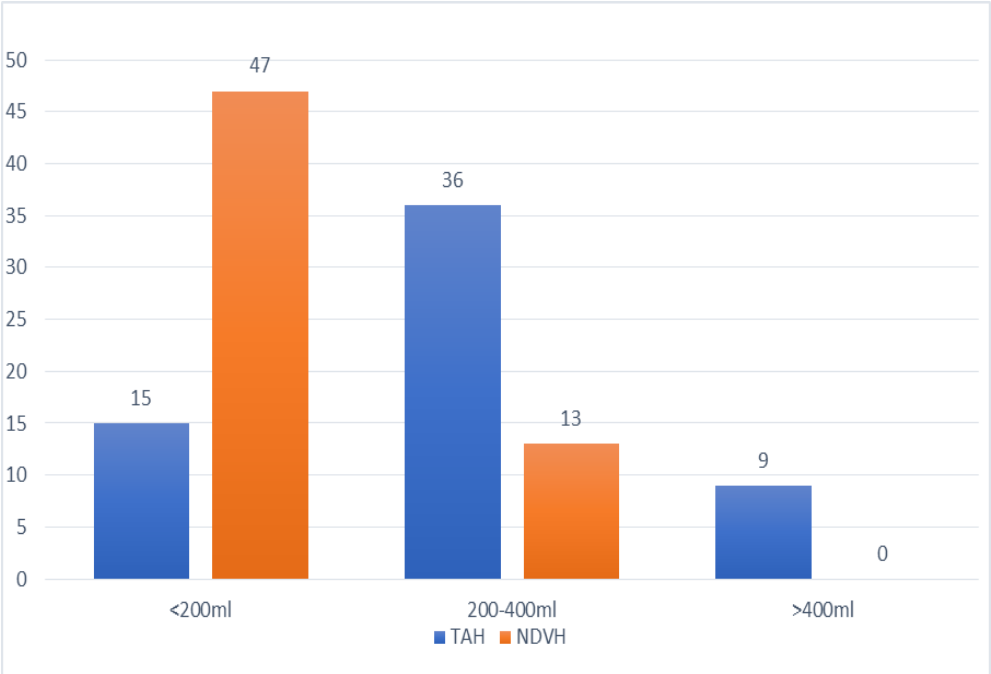

Figure 11: Comparison of two surgery groups with respect to mean Blood loss in ml.

Table 11: Comparison of two surgery groups with respect to HPR report.

		TAH		NDVH		
S. No.	**HPR**	**No.**	**Percentage**	**No.**	**Percentage**	**P Value**
1	Fibroid	28	46.7	20	33.3	
2	Adenomyosis	07	11.7	19	31.7	
3	Chronic cervicitis	08	13.3	11	18.3	
4	Simple hyperplasia	10	16.7	03	05	
5	Benign ovarian mass	01	1.7	03	05	.014108
4	Complex hyperplasia without atypia	03	05	00	00	
5	Endometrial polyp	02	3.3	05	8.3	
7	Proliferative endometrium	01	1.7	02	3.3	
	Total	60	100	60	100	

Majority of the patients who were operated were diagnosed to have fibroid (i.e. 46.7% in TAH & 33.3% in NDVH) as the main cause for their complaints followed by adenomyosis changes. Other causes were chronic cervicitis, endometrial polyp, simple hyperplasia, benign ovarian mass, complex hyperplasia without atypia.

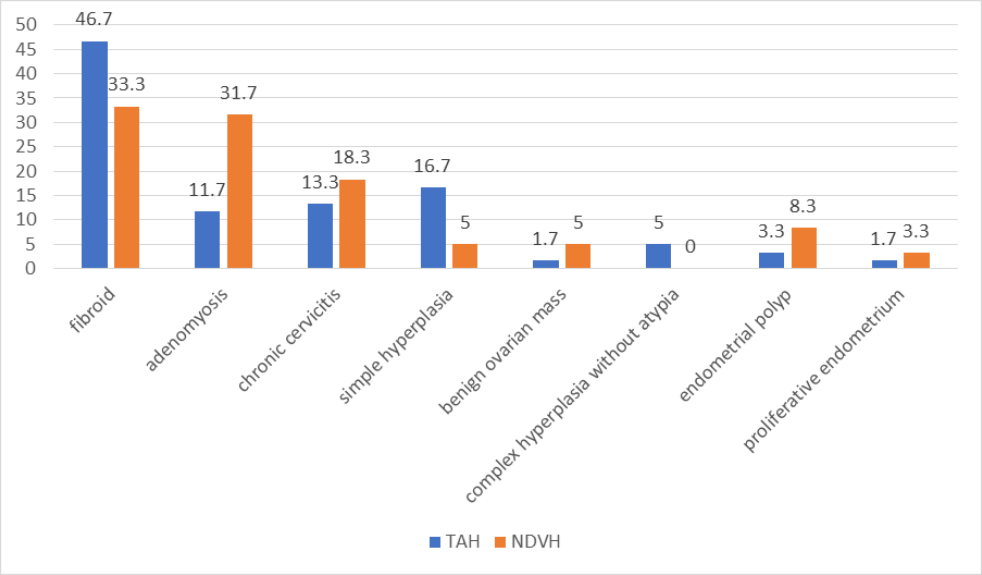

Figure 12: Comparison of two surgery groups with respect to HPR report.

Table 12: Comparison of two surgery groups with respect to post operative ambulation time in hours

Post OP ambulation (hrs)	TAH	NDVH
<24hrs	45	58
24 – 48hrs	14	2
>48hrs	1	0
Mean	21.7333	15.6
Std.Dev.	4.3797	2.9593

Mean post op ambulation in TAH is 21.7hrs while in NDVH is 15.6hrs. Post op ambulation (hrs) in NDVH, statistically significant when compared to TAH. Post ambulation was earlier in NDVH as compared to TAH.

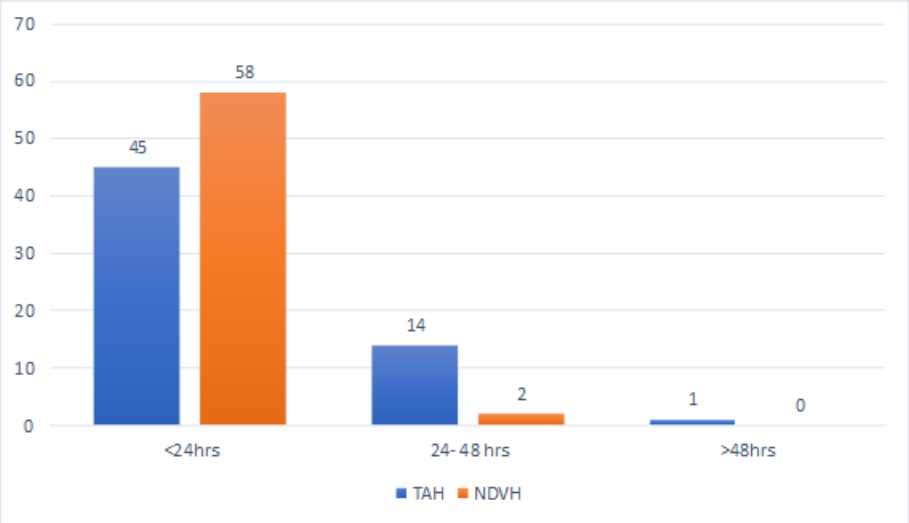

Figure 13: Comparison of two surgery groups with respect to post operative ambulation time in hours.

Table 13: Comparison of two surgery groups with respect to Post – op complications.

Post OP complications	TAH		NDVH		
	No.	Percentage	No.	Percentage	P value
Wound infection	12	20 %	0	0 %	<0.00001
UTI	2	3.3 %	1	1.6 %	
Fever	2	3.3 %	4	6.6 %	
Urinary retention	1	1.6 %	0	0 %	
Per vaginal bleeding	0	0 %	1	1.6 %	
Bladder injury	1	1.67 %	0	0 %	
No complications	43	70.13 %	54	90.2%	

*one case of TAH with bladder injury had wound infection

In Post op complications, majority cases were wound infection in TAH cases while in NDVH majority was febrile morbidity. Among the intra operative complications only bladder injury was seen in 1 patient of TAH while no intra-operative injuries in NDVH. Other post op complications in NDVH were UTI, bleeding per vaginal while in TAH were UTI, urinary retention, febrile morbidity. Post op complications were less in NDVH as compared to TAH.

Bladder injury was the only intra operative complication, and this patient had history of previous 1 lscs and cholecystectomy.

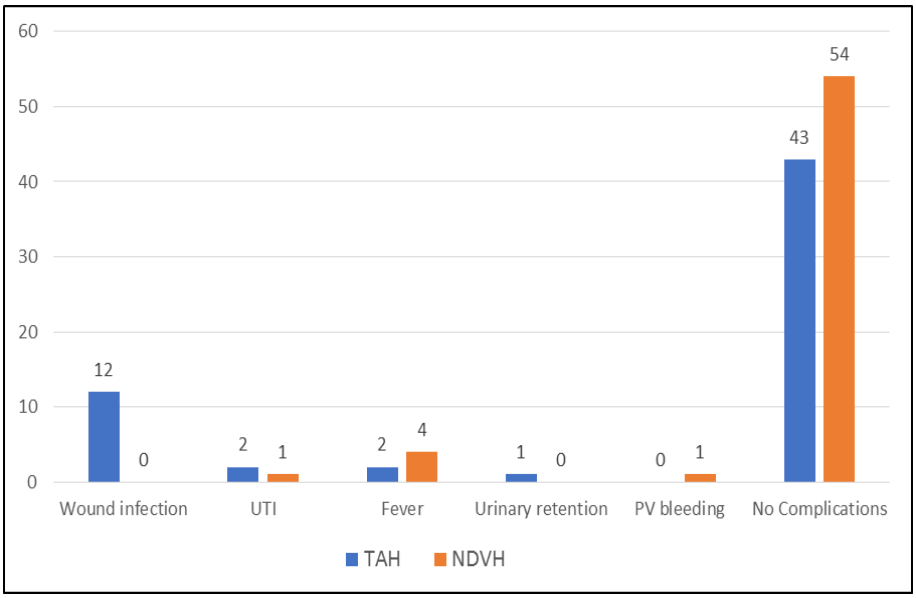

Figure 14: Comparison of two surgery groups with respect to Post – op complications.

DISCUSSION

The purpose of this study was to compare abdominal hysterectomy and non- descent vaginal hysterectomy in terms of the indications, intraoperative and postoperative outcomes and morbidity. Advantages and disadvantages for abdominal and vaginal hysterectomy for non-descent uterus were also studied.

In this study, intraoperative and postoperative outcomes were compared among 120 patients (60 in each group).

In our study, the mean age group irrespective of the route of surgery was between 45-50 years of age. Mean age group was more in NDVH (48.8yrs) than TAH (45.8yrs). In *Shivani Abrol et al* (2017) study, both the groups had similar age distribution.[22] In *Uday B Rana et al (2020) study*, majority of the patients were in the age group of 40 and 50 years.[21]

In current study, 56.7% were multipara (>3 parity) in TAH and 50% were multipara (>3 parity) in NDVH. In our study, almost 54% of patients had parity more than or equal to 3 in both the groups. In *Shivani Abrol et al (2017)* & *Uday B Rana et al (2020)* studies, majority of the patients were multipara in both groups.[22,21]

In present study, in TAH, anemia (20%) was major co-morbidity, followed by hypertension (11.7%). In NDVH, hypertension (28.4%) was major co-morbidity, followed by obesity (15%). More number of patients had comorbid conditions in NDVH (61.6%) than TAH (51.6%). In *Dhivya Balakrishnan et al (2016)* study, 40% of patients in each of the groups had co-morbidities like hypertension, diabetes mellitus, bronchial asthma, ischemic heart disease and anemia.[24] In *Deshpande, et al (2016)* study, in NDVH patients, all comorbidity DM, HTN, Bronchial asthma, IHD were more than TAH.[23]

In present study, 16.5% patients in the NDVH group had previous pelvic surgeries while 10% patients in the TAH group had history of previous pelvic surgeries. In *Dhivya Balakrishnan et al (2016)* study, 6.67% of the patients in the vaginal group had previous pelvic surgeries while 3.33% of the patients in the abdominal group had history of one pelvic surgery.[24] In *Shivani Abrol et al (2017)* study, none of the patients in the vaginal group had previous pelvic surgeries while one patient in the abdominal group had history of one pelvic surgery.[22]

In present study, majority of the patient's surgery indicated was due to AUB – L i.e. fibroid in both groups. In our study, almost 39.17% of patients who underwent hysterectomy had fibroid as an indication followed by DUB and adenomyosis in 20.8% and 20% patients respectively. Other common indications are chronic pelvic pain, endometrial polyp. In *Mona Priyadarshini et al (2020)* study, the most common indication in both the arms were abnormal uterine bleeding, 82% in TAH versus 54% in NDVH group, as our study.[20] In *Shivani Abrol et al (2017)* study, 66% of cases had fibroid as an indication in TAH versus 56% of cases had DUB as an indication in NDVH.[22]

In our study, pre & post-operative haemoglobin levels had significant difference in blood loss among the two study groups. The mean value of haemoglobin was 10.99 gm% pre-operative & 9.5 gm% post-operative in TAH group. The mean value of haemoglobin was 10.95 gm% pre-operative & 10.24 gm% post-operative in NDVH group. The blood loss was less in cases of NDVH as compared to cases of TAH when compared in terms of pre-operative and post-operative haemoglobin. On comparing the pre & post-operative haemoglobin by paired t test in each study group there appears to be significant amount of blood loss in TAH group. In *Shivani Abrol et al (2017)* study, postop Hb was 10.1gm% in NDVH & 7.89 gm% in TAH group. There was significant blood loss in TAH group as compared to NDVH group of patients.[22]

In current study, mean duration of surgery in cases of TAH was 90.5 mins & NDVH cases was 55.8 mins. The p value is significant in duration of surgery of NDVH as compared to that of TAH. We observed that NDVH was less time consuming than TAH. In *Shivani Abrol et al (2017)* study, the mean duration of surgery was 48.6 minutes in the vaginal group, whereas, it was 68.2 minutes in the abdominal group, implying a significant difference ($p<0.05$).[22] In *Chandrakar K et al (2016)* study, mean duration of surgery in NDVH group was 86.3 minutes and mean duration of surgery in TAH group was 106.4 minutes.[25]

In *Uday B Rana et al* (2020) study, there was no statistically significant difference in the operating time in both the groups i.e. TAH and NDVH.[21] This result depends upon the size of the uterus, any previous pelvic surgery leading to adhesion and the experience of the operating surgeon.[37]

In present study, by qualitative assessment of pain on day3 postoperative period using visual analogue scale the p value is significant when NDVH is being compared to TAH. In TAH, 78.3% patients had pain score between 4-6 while in NDVH, 73.34% patients had pain score between 0-3 on day3 of post-operative period. Patient had less pain in NDVH group as compared to TAH group. Similar findings were seen in *Chandrakar K et al (2016), Mona Priyadarshini et al (2020)* and *Shivani Abrol et al (2017)* studies also.[25,20,22]

In our study, duration of stay in hospital p value was significant when TAH was compared to NDVH. Mean duration of stay in hospital was more in TAH (i.e.11days) as compared to NDVH (i.e. 8days). In *Dhivya Balakrishnan et al (2016)* study, the mean length of hospital stay was 10.87 days in the abdominal group while the duration was 4.67 days in the vaginal group.[24] In *Chandrakar K et al* (2016) study, mean duration of hospital stay in NDVH was 5.44 days while mean

duration of hospital stay in TAH was 6.27 days. The difference in the duration of hospital stay when the two groups were compared was found to be statistically significant with a P value 0.00001. Longer stay in hospital may be due to prolonged catheterisation or post operative complications.[25]

In our study, there is significant difference was found when blood loss in ml was compared among two groups. Mean blood loss in NDVH (142.5 ml) was lower than TAH (275.8 ml). In TAH, blood loss was more as it requires entry via skin, subcutaneous fat, rectus and muscle. In *Deshpande, et al (2016)* study, TAH also measured higher when it came to intraoperative blood loss where it amounted to 138.80ml of blood loss than that of NDVH with on an average just 41.96ml.[23]

Similarly, a significantly higher blood loss (247.7 ml) was noted in the abdominal hysterectomy group, compared to 189.1 ml in the vaginal group ($p<0.05$) in *Shivani Abrol et al (2017)* study also.[22] In *Uday B Rana et al* (2020) study, there was no statistically significant difference in the intraoperative blood loss in both the groups i.e TAH and NDVH.[2]

In current study, majority of the patients who were operated were diagnosed to have fibroid as the main cause for their complaints followed by adenomyosis changes in both groups. Other causes were chronic cervicitis, endometrial polyp, simple hyperplasia, benign ovarian mass, complex hyperplasia without atypia.

The most common cause for surgery was fibroid and AUB in the study by *Mehta et al.*[38] In *Uday B Rana et al (*2020) study the main benign cause for hysterectomy were fibroid, adenomyosis, chronic pelvic pain, and abnormal uterine bleeding (AUB). Total abdominal hysterectomy was performed for fibroid uterus and AUB in 73.5% patients and non-descent vaginal hysterectomy in 72.5% patients.[21]

In present study, post op ambulation in NDVH, is statistically significant when compared to TAH. Post op ambulation was earlier in cases of NDVH (15hrs) as compared to that of cases of TAH (21hrs). Similar findings were seen in *Chandrakar K et al (2016), Mona Priyadarshini et al (2020)* and *Shivani Abrol et al (2017)* studies also.[25,20,22]

In our study, post op complications in TAH group were more than NDVH which is statistically significant. In post op complications, majority cases were wound infection in TAH cases while in cases of NDVH majority was febrile morbidity. In intra-operative injuries, only one case of TAH had bladder injury while there were no intra-operative injuries in cases of NDVH. There were two cases of UTI in TAH while one case of UTI in NDVH. Febrile morbidity was more among the NDVH (6.6%) cases than TAH (3.3%) cases. Urinary retention was seen in one case of TAH. Vaginal bleeding was seen in one case of NDVH.

In *Hemant Deshpande et al (2016)* study, intraoperative complication showed ureteric injury was significantly high among Total abdominal hysterectomy cases as compared to non-descent vaginal hysterectomy cases, while bladder injury was seen in one case in non-descent vaginal hysterectomy and one case had bowel injury in Total abdominal hysterectomy.[23]

In our study, there were no intra-operative complications in cases of NDVH and there was no conversion of vaginal route to abdominal approach. Our study was comparable to other studies in terms of all parameters. NDVH had shorter duration of surgery, less post operative pain, short duration of stay in hospital, less amount of blood loss, early post-op ambulation, less post-op complications as compared to TAH. NDVH should be preferred method of hysterectomy in benign conditions as it is safe, cost effective and has better outcome.

Ottosen et al (2000) also state that vaginal hysterectomy should be a primary method for uterine removal.[39]

Garg et al (2003) conducted a study comparing vaginal hysterectomy with abdominal hysterectomy with 23 patients in each group and found a reduced operating time, lesser intraoperative blood loss, reduced postoperative morbidity and shorter hospital stay in the vaginal hysterectomy group.[40]

CONCLUSION

Hysterectomy is one of the most commonly performed procedure in gynaecology with majority of the patients presenting with complaints of abnormal uterine bleeding.

Vaginal Hysterectomy is the approach of choice whenever feasible as it has advantages over other methods such as:

1. Shorter duration of surgery (in comparison to TAH), Cost -effective
2. Less intraoperative blood loss
3. Early ambulation and return to normal activity
4. Improved pain assessment
5. Shorter duration of hospital stay
6. Better and improved post-surgery quality of life

Hereby we conclude that non- descent vaginal hysterectomy should be preferred over abdominal hysterectomy, though non-descent vaginal hysterectomy requires expertise, but is rewarding procedure for patient and surgeon.

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