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Dr. Dipal Patel
Resident, Department of obstetrics and gynecology, C. U. Shah. Medical College, Surendranagr, Gujarat, India

Dr. Bhavesh Airao
Professor, Department of Obstetrics and Gynaecology, C.U. Shah. Medical College, Surendranagar, Gujarat, India

Dr. Divya Tekani
Associate professor Department of Obstetrics and Gynaecology, C.U.Shah. Medical College, Surendranagar, Gujarat, India

A comparision of intraoperative complication and post operative pain scaling of Laproscopic assisted vaginal hysterectomy (LAVH) and Nondescendent vaginal hysterectomy

Dr. Dipal Patel, Dr. Divya Tekani and Dr. Bhavesh Airao

Abstract
Objective: To find out the intraoperative complications and postoperative pain scaling associated with Laparoscopic assisted vaginal hysterectomy and Non descent vaginal hysterectomy.
Design: Prospective analytical observational clinical study.
Methods: A Prospective analytical observational clinical study was undertaken in patients undergoing Laparoscopic assisted vaginal hysterectomy and Non descent vaginal hysterectomy.
Results: Operating time was lesser in Non descent vaginal hysterectomy group. Intraoperative blood loss was significantly less in Non descent vaginal hysterectomy group than in Laparoscopic assisted vaginal hysterectomy group. Postoperative pain was also less in women undergoing Non descent vaginal hysterectomy group. Pain score was in the immediate postoperative period was more approximately 7 in the Laparoscopic assisted vaginal hysterectomy group and approximately 6 in the Non descent vaginal hysterectomy group. Complications like bladder hematoma and paralytic ileus were seen only in Laparoscopic hysterectomy. Because of more complications there were also more hospital stay in case of laparoscopic hysterectomy.
Funding: No funding received for the study.
Conclusion: Non descent vaginal hysterectomy should be the preferred route of hysterectomy attributed to less postoperative pain and complications.

Keywords: Laparoscopic assisted vaginal hysterectomy, non descent vaginal hysterectomy

Introduction

Hysterectomy is one the common surgeries performed globally. Most of them were done for benign indications. Abdominal hysterectomy is associated with more operating time and postoperative morbidity. Less invasive methods like Laparoscopic assisted hysterectomy and Non descent vaginal hysterectomies are associated with shorter operating time and postoperative morbidity. There are no definite criteria to select the route of hysterectomy for benign gynaecological conditions. The route is often decided by personal preferences, size of uterus and associated conditions like adhesions etc. We did a prospective observational study among patients who underwent Laparoscopic assisted vaginal hysterectomy and Non descent vaginal hysterectomy to find out the intraoperative complications and postoperative pain.

Materials and Methods

A prospective observational study was undertaken at a tertiary care institution. The study was conducted between May2018 to May2019. The study was conducted with a sample size of 100 with 50 patients undergoing Laparoscopic assisted vaginal hysterectomy (LAVH) and 50 patients undergoing Non descent vaginal hysterectomy (NDVH). NDVH is defined as a vaginal hysterectomy which is performed when there is no descent of cervix on clinical examination. Informed consent was taken from all patients before surgery. Only cases with uterine size less than 12 weeks were considered in the study. Non descent vaginal hysterectomy was performed in a standard manner. No saline infiltration was used in the study. After making a circular incision around the cervix, vaginal walls were reflected and both uterovesical fold of peritoneum and Pouch of Douglas opened. Uterine artery clamped and coagulated laparoscopically. Vaginal hysterectomy was done in a standard manner after the division of uterosacral, transverse cervical ligaments and upper pedicles. All the stumps were ligated with No 1 Vicryl.

Corresponding Author:
Dr. Divya Tekani
Associate professor Department of Obstetrics and Gynaecology, C.U.Shah. Medical College, Surendranagar,Gujarat, India

In the Laparoscopic assisted vaginal hysterectomy group only upper pedicles were ligated laparoscopically. Bipolar cautery was used in the division of upper pedicles. Uterine Artery, uterosacral and transverse cervical ligaments were ligated vaginally. The vaginal vault was closed vaginally in both groups. Vault suspension was done by attaching uterosacral ligaments to vaginal vault before closure of vaginal vault. Operating time and blood loss during surgery was calculated. Hemoglobin estimation was done preoperatively and 24 hours after surgery and the difference in hemoglobin values calculated. Post-operative pain was calculated on a visual analogue scale during the immediate postoperative period and 24 hours after surgery. On the visual analogue scale, a score of 0 meant no pain at all, 10 suggested a worst unbearable pain. The score of 1 to 9 suggested increasing degree of severity.

Statistical package for the social science (SPSS-16) was used for statistical compilation and analysis.

Results

Majority of patients undergoing hysterectomy belonged to 41-50 years of age (Figure 1). Mean operating time (Figure 2) and blood loss was significantly lower in Non descent vaginal hysterectomy group. When ovaries need to be removed Laparoscopic assisted route was chosen, however in a few cases ovaries could be removed in the Non descent vaginal hysterectomy group. Post-operative complications like bowel injury, hernia, dehiscence, bowel injury, paralytic ileus and bladder wall hematoma were seen in few patients undergoing Laparoscopic assisted vaginal hysterectomy. (Table 5). Postoperative pain in the immediate postoperative period and the first post-operative day was significantly less in the patients who underwent Non descent vaginal hysterectomy (Table 5).

Discussion

Studies suggest that Laparoscopic assisted hysterectomy or vaginal hysterectomy is associated with fewer problems compared to abdominal hysterectomy. Vaginal hysterectomy must be the choice of hysterectomy whenever possible. Our study showed Non descent vaginal hysterectomy is associated with lesser problems when compared with Laparoscopic assisted vaginal hysterectomy. The operating time, blood loss and post operating pain was significantly less in the vaginal hysterectomy group compared with Laparoscopic assisted vaginal hysterectomy group. Summit et al. in a study found longer operating time, blood loss and more pain in Laparoscopic assisted vaginal hysterectomy group than in Non descent vaginal hysterectomy. Soriano et al. also found longer operating time in patients who underwent Laparoscopic assisted vaginal hysterectomy. However, the post-operative pain was similar in both groups in their study. One patient in our series had bladder wall hematoma in the Laparoscopic assisted vaginal hysterectomy group. Harkki et al. in an extensive series also observed a higher rate of urinary tract injuries in patients who underwent Laparoscopic assisted vaginal hysterectomy. Our study demonstrates the superiority of Non descent vaginal hysterectomy over Laparoscopic assisted vaginal hysterectomy.

Vaginal hysterectomy should be the preferred route of hysterectomy if there are no contraindications. Laparoscopic assisted vaginal hysterectomy may be considered in the presence of adhesions or when removal of the ovary is needed. Though ovaries can be removed during Non descent vaginal hysterectomy it needs considerable skill. We could remove ovaries in 5 cases during Non descent vaginal hysterectomy. The sample size in the study was small and is a drawback of this study. In a metanalysis, Jhonson et al. have suggested Vaginal hysterectomy as the preferred route of hysterectomy whenever possible. If there are no contraindications and situations are favorable vaginal route of hysterectomy should be the route of hysterectomy. Laparoscopic assisted vaginal hysterectomy may be considered when there are intraabdominal adhesions or when removal of ovaries are indicated.

Table 1: Age wise distribution of cases between the procedure

Age group (in years)	Laparoscopic assisted vaginal hysterectomy [N=50]	Non descent vaginal hysterectomy [N=50]
<30	0	0
31-40	18	17
41-50	31	29
51-60	1	4

Table 2: Distribution of cases between the procedures based on duration

Duration of procedure	Laparoscopic assisted vaginal hysterectomy (N =50)	Non descent vaginal hysterectomy (N=50)
<50 min	1	2
51-60 min	1	13
61-70 min	1	14
71-80 min	11	16
81-90 min	30	3
<90 min	6	2

Table 3: Distribution of cases between the procedures based on blood loss

Blood loss	Laparoscopic assisted Vaginal hysterectomy (N=50)	Non descent vaginal hysterectomy (N=50)
<30 ml	44	26
31-500ml	5	21
>500ml	1	3

Table 4: Distribution of cases between the procedures based on hospital stay

Hospital stay	Laparoscopic assisted vaginal Hysterectomy (N =50)	Non descent vaginal hysterectomy (N=50)
<5 days	38	44
5-7 days	9	5
<7 days	3	1

Table 5: Distribution of cases between the procedures based on complications

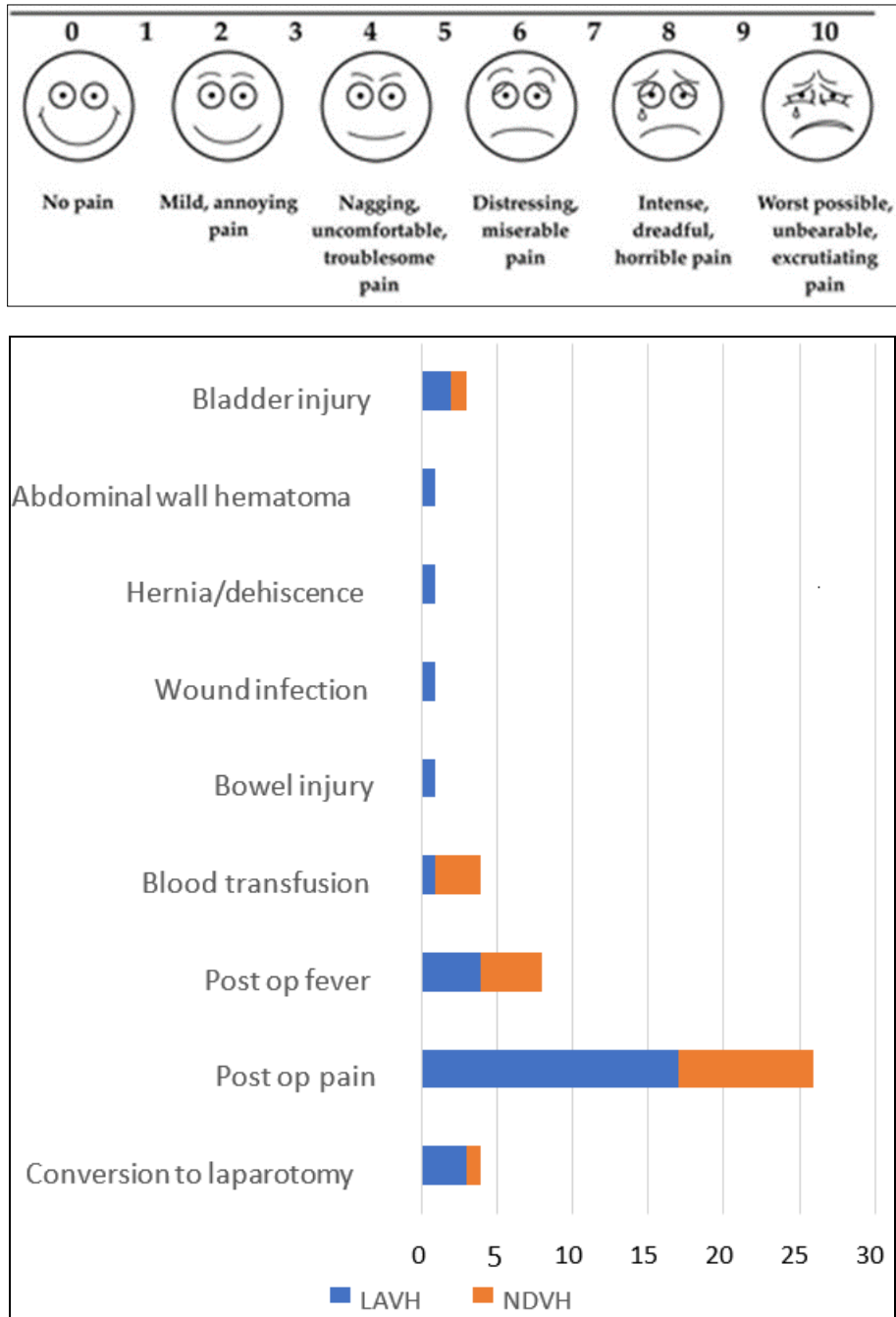| Complications	Laparoscopic assisted vaginal Hysterectomy (N =50)	Non descent vaginal hysterectomy (N=50)
Conversion to laparotomy	3	1
Post op pain	17	9
Post op fever	4	4
Blood transfusion	1	3
Bowel injury	1	-
Wound infection	1	-
Bladder injury	2	1
Hernia/dehiscence	1	-
Abdominal wall hematoma	1	-

Fig 1: Distribution of cases between the procedures based on complications

Conclusion

Non descent vaginal hysterectomy is associated with shorter operating time and less blood loss. Post-operative pain is less in women undergoing Non descent vaginal hysterectomy. Hence Non descent vaginal hysterectomy as a route of hysterectomy should be whenever possible. However Laparoscopic assisted vaginal hysterectomy may be considered in situations where intrabdominal adhesions are present or when removal ovaries are needed.

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