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Original Research Article

A RETROSPECTIVE STUDY OF THE COMPLICATIONS OF VAGINAL HYSTERECTOMY AT A TERTIARY CARE CENTER

Kovelamudi Vedasri[1], Yarlagadda Srilakshmi[2], Palaparthi Venkata Raghava Rao[3], Seeli Pranathi Raj[4]

[1,4]Third year, Department of Obstetrics & Gynecology, DR. PSIMS & RF, Chinoutpalli, Gannavaram, Andhra Pradesh, India.
[2]Associate Professor, Department of Obstetrics & Gynecology, DR. PSIMS & RF, Chinoutpalli, Gannavaram, Andhra Pradesh, India.
[3]Professor, Department of Obstetrics & Gynecology, DR. PSIMS & RF, Chinoutpalli, Gannavaram, Andhra Pradesh, India.

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Corresponding Author:
Dr.Yarlagadda Srilakshmi,
Associate Professor, Department of Obstetrics & Gynecology, DR. PSIMS & RF, Chinoutpalli, Gannavaram, Andhra Pradesh, India.
Email: yarlagaddasrilakshmi531@gmail.com

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ABSTRACT

Background: Hysterectomy is one of the most common surgical procedures performed by the gynaecologist. It can be performed by vaginal, abdominal and laparoscopic route. Vaginal hysterectomy ranks as one of the least and minimally invasive types of hysterectomies, and it has better outcomes and fewer complications when compared to other types. This study assesses the intraoperative and postoperative complications of vaginal hysterectomy.

Material & Methods: This hospital based retrospective observational study was carried out from March 2023 to March 2024. A total of 105 patients who underwent vaginal hysterectomy were included in this study. Age, parity, associated medical conditions like anaemia, diabetes, hypertension, thyroid disorders, indications for vaginal hysterectomy, intraoperative complications like excessive blood loss, bladder, bowel or ureteric injuries, conversion to TAH, postoperative complications like vault infection, subacute intestinal obstruction, VVF, RVF, stress urinary incontinence and vault prolapse were analysed.

Results: Our study included 105 patients. Majority were in the age between 40 – 49 years (69%). AUB (L)was the commonest indication for vaginal hysterectomy (60%). There was no excessive blood loss for any patient and none needed blood transfusion. Bladder injury occurred in 1 case (0.9%), Subacute intestinal obstruction occurred in 1 case (0.9%), conversion to TAH in 2 cases (1.8%). 2 cases (1.8%) developed vault cellulitis, whereas 3 cases (2.7%) developed stress urinary incontinence.

Conclusions: In majority of the cases, no intraoperative complications were found suggesting low morbidity associated with the procedure. The post-operative hospital stay was restricted to 4 days in 85.7% of cases which indicates early discharge of the patient. Post-operative complications such as vault cellulitis(1.8%) and stress urinary incontinence(2.7%) were seen only in few cases. So, Vaginal hysterectomy is associated with quicker recovery, early mobilization, shorter hospitalization, less operative and postoperative morbidity. Therefore, vaginal hysterectomy should be considered as the primary route for all hysterectomies unless contraindicated.

Keywords: Vaginal hysterectomy, intraoperative complications, postoperative complications.

INTRODUCTION

The most common gynecological surgery is hysterectomy, which has good long term outcomes. It would be wise to choose hysterectomy choice with lesser complications.

The medical world is developing at a rapid pace, and as a result, surgical discoveries and advancements have created a need for renewed understanding of the uterus descent, volume, and surgical history.

The type of hysterectomy depends on the disorder to be treated, the size of the uterus, and the skills and preference of the surgeon.

The recommendations and practices regarding methods for hysterectomy are changing internationally. According to the Cochrane review 2015, vaginal hysterectomy (VH) is still the best minimal access method for hysterectomy, but benefits and hazards seem to be dependent on the surgical expertise.[1]

The Cochrane review recommends vaginal hysterectomy whenever possible. In 2006, in Finland, vaginal hysterectomy was the most common approach, followed by laparoscopic hysterectomy, which has largely replaced abdominal hysterectomy.[2]

The abdominal approach is indicated in most cases of uterine cancer, in cases of emergency hysterectomy, and in patients with large fibroids. While an abdominal approach accounted for 80% of hysterectomies performed previously, a vaginal approach currently accounts for more than 70% of these procedures due to 70% decrease in complications.

Laparoscopic assisted vaginal hysterectomy (LAVH) and Vaginal hysterectomy (VH) are clinically and economically comparable with Total abdominal hysterectomy (TAH), with patients benefits of less estimated blood loss, less analgesia use, less postoperative pain, rapid patient recovery and shorter hospital stay.[3]

Abnormal uterine bleeding, which is due to a variety of diseases such as uterine fibroids, adenomyosis, genital cancers and endometrial atypical hyperplasia account for more than half of hysterectomies performed.

The two most frequent reasons for hysterectomy are abnormal uterine bleeding and menorrhagia due to uterine fibroids and adenomyosis.

Aims and Objectives

- To study the intraoperative and postoperative complications of vaginal hysterectomy.
- To assess the intraoperative blood loss and the operative time.

MATERIALS AND METHODS

Study design: Retrospective observational study.

Study period: Place of study and duration.

The study was conducted at a tertiary care hospital at Dr. PSIMS & RF, Chinnoutpally, Gannavaram, in South India over a period of 12 months from March 2023 to March 2024. Institutional Ethics committee approval was obtained for conducting the study.

Sample Size: A total of 105 patients were included in this study.

Inclusion Criteria

- Women with normal vaginal deliveries.
- Women with one previous cesarean section.
- Uterus size <16weeks.
- 3rd or 4th degree UV descent.

Exclusion Criteria

- Previous two cesarean sections.
- Uterus size >16weeks.
- Previous pelvic surgeries

Study methods

A review and analysis were conducted on the surgical indications and details, histological results, and postoperative course. A complete workup of the case was done and the patients were admitted one day before surgery. Co-morbid medical issues were investigated, and a physician or cardiologist's opinion was obtained if necessary. Hb% was maintained to more than 10gm% preoperatively. Those patients with Hb <10g% were transfused with blood or given FCM infusion according to their Hb values. Prior to surgery, pre-anaesthetic check-up was done for every patient. A good bowel preparation was given 1 day before. Routinely preoperative antibiotics like cefotaxime and metronidazole were given to patients half an hour before surgery. 1 unit of blood was cross-matched for each patient on the day of surgery. Vaginal hysterectomy was done and to prevent the vault prolapse,the uterosacral ligaments were attached to the vault. Intraoperative blood loss and complications were assessed. After vaginal hysterectomy,the patients were ambulated after 6 hours.Oral fluids and soft diet were allowed after 12 hours.

Post-operative Hb% and PCV were done on POD–2. IVantibiotics (Cefotaxime and Metronidazole) were continued for 48 hours,followed by oral antibiotics for 5 days. The patients were discharged on post-operative day 4 and they were advised to come for follow up 1 week and 2 weeks after discharge. Histopathology reports were reviewed after 1 week. The patients were followed up for postoperative complications.

RESULTS

In our present study a total of 105 patients who underwent vaginal hysterectomy were included.

Considering the age wise distribution pattern of patients who underwent vaginal hysterectomy, the majority of the women were in the age group of 40-49years (69 %), followed by 50-59years (13.3%). [Table 1]

In our study fibroid uterus (60 %) was the leading indication for performing hysterectomies followed by adenomyosis (23.8 %) and UV prolapse(9.5%). [Table 2]

The amount of blood loss was 200ml in 58%, followed by 100-200ml in 37.2%. Bladder injury occurred in 1 case out of 105 vaginal hysterectomies (0.95 %) which was diagnosed intraoperatively and repaired. 2 cases (1.9%) were converted to Total abdominal hysterectomy (TAH)in view of adhesions. [Table 4]

Post operatively, 2 patients (1.9 %) had paralytic ileus. Unexplained fever was seen in 6 patients (5.7%) on post-operative day 2 which subsided

without any significant complications and intervention.

Immediate postoperative complications like paralytic ileus(1.9%) and pyrexia(5.7%) occurred in few patients.1 case out of 105 developed subacute intestinal obstruction for which emergency laparotomy was done. 2 patients(1.9%) developed vault cellulitis and 3 patients (2.7%) had stress urinary incontinence (SUI). [Table 5]

In our study majority of the patients, (85.7%) were discharged on the postoperative day 4. [Table 6]

The most common finding on histopathological examination was leiomyoma (49.5%). The second most common finding was adenomyosis (34.2%) and it was observed that adenomyosis was underdiagnosed clinically. [Table 7]

Table 1: Age wise distribution of cases

Age	Number of patients (n=105)	Percentage
30-39years	7	6.6%
40-49years	73	69%
50-59years	14	13.3%
60-65years	11	10.4%

Table 2: Indications for vaginal hysterectomy

Indication	Number of patients (n=105)	Percentage
Fibroid uterus	63	60%
Adenomyosis	25	23.8%
UVprolapse	10	9.5%
Postmenopausal bleeding with atypical endometrial hyperplasia	7	6.6%

Table 3: Intraoperative complications of vaginal hysterectomy

Intraoperative complications	Number of cases (n=105)	Percentage
Primary hemorrhage	4	3.8%
Bladder injury	1	0.95%
Bowel injury	Nil	-
Conversion toTAH because of adhesions to bladder	2	1.9%

Table 4: Amount of blood loss during vaginal hysterectomy

Blood loss(ml)	Number of patients(n =105)	Percentage
100-200 ml	39	37.1%
200ml	61	58%
>200 ml	5	4.7%

Table 5: Immediate and late postoperative complications

Postoperative complications	Number of cases (n=105)	Percentage
Pyrexia	6	5.71%
Hemorrhage	Nil	-
Paralytic ileus	2	1.9%
Late postoperative complications	Number of cases(n=105)	Percentage
Subacute Intestinal obstruction	1	0.95%
Vault cellulitis	2	1.9%
Fistulas(VVF,UVF)	Nil	-
Stress urinary incontinence	3	2.7%

Table 6: Discharge on Post-operative day (POD)

Discharge on post-operative day (POD)	Number of patients(n =105)	Percentage
POD – 4	90	85.7%
POD - 5	12	11.4%
POD - >5	3	2.8%

Table 7: Histopathological report

Histopathology report	Number of patients (n =105)	Percentage
Leiomyoma	52	49.5%
Adenomyosis	36	34.2%

Leiomyoma with adenomyosis	17	16.19%

DISCUSSION

Hysterectomy is the most common major gynaecological surgery performed in women after caesarean delivery.[4,5]

In our series, 6.6% of vaginal hysterectomies were done in the age group of 30-39years, compared to 33% vaginal hysterectomies performed in women <35years of age showed in an Indian study in 2010. Fibroid uterus (60%) was the most common indication for vaginal hysterectomy in our study. A retrospective study conducted at a tertiary institution in Nigeria,[6] revealed that 38.7% of patients had vaginal hysterectomy, fibroid uterus being the primary reason.

The prevalence of bladder injury during vaginal hysterectomy is up to 1.2 percent. It increases with risk factors like prior pelvic surgeries and concomitant bladder surgery.[7] Bladder injury occurred in 1 case (0.95%) in our study. Bladder injury during vaginal hysterectomy has been variously reported between 0.5% and 1.6%. Unger,[8] reported an incidence of 2.8% in the past LSCS group versus 1.6% in those without LSCS. Sheth[9] reported a very low incidence of bladder injury of 0.1%.

During vaginal hysterectomies bladder and ureteric injuries occur while separating the bladder from cervix (0.3 to 11 cases per 1000).

In our study 2 cases were converted to Total abdominal hysterectomy (TAH) because of adhesions to bladder. With increasing expertise the risk of intraoperative complications decreases.

Post-operative pyrexia was observed in 5.71% in our study that did not require any specific interventions. They resolved with regular treatment without any sequelae. Similar results were found in other case series conducted by Kumar and Antony,[10] (2004), Bhadra et al,[11](2011), Saha et al,[12] (2012), Mehta et al,[13] (2014), Doppa et al,[14] (2014), Chandana et al,[15] (2014), and Mehla et al,[16](2015). Pain was the most common post-operative complication in studies by Saha et al,[12] (2012) and Mehla et al,[16] (2015). In a study by Pradeep et al,[17] (2015), 10.83% of patients had post-operative pyrexia.

Postoperative ileus or paralytic ileus was predefined as the absence of flatus and defecation for more than 2 days with the presence of one or more of the following symptoms: nausea, vomiting, and abdominal distention.

In our study 2 patients (1.9%) developed paralytic ileus. The incidence of paralytic ileus after vaginal hysterectomy was 11.3% in a study conducted by Li ZL et al,[18] over a span of 5 years.

In our study 2 patients (1.9%) developed vault cellulitis and 3 patients (2.7%) had stress urinary incontinence (SUI).

Stress urinary incontinence was defined as the involuntary leakage of the urine on effort or exertion.[19] The factors that cause pressure or trauma to the pelvic floor, such as obesity, pregnancies and vaginal deliveries increase the risk of SUI.[20]

There is a risk of stress urinary incontinence to be over twice higher after vaginal hysterectomy than abdominal hysterectomy even after adjusting the other risk factors which is in line with a previous large cohort study in Sweden.[21]

Vault cellulitis is an infection of the vaginal vault or the surgical cuff following a hysterectomy. It can occur due to contamination during surgery or secondary to ascending infection from the lower genital tract.[22] Most of these infections are caused by anaerobic bacteria.[23]

The patients with vault cellulitis usually present with fever, which is the earliest sign of infection. Toglia et al,[24] found in their study that 69% of women with postoperative pelvic collection experienced febrile morbidity compared to 12% with no collection. The other symptoms of vault cellulitis is foul smelling discharge which may be scanty or profuse and sometimes may be blood tinged. Pain and tenderness in the pelvic area may be experienced due to the infection. Some patients may also present with swelling and redness in the vaginal vault area.

In our study, 2 patients (1.9%) developed vault cellulitis. In a study done in Ukraine, a total of 12.6% of women after hysterectomy had vaginal cuff infections. Of these cases, 15.5% after vaginal hysterectomy were identified.[25]

In our study, 85.7% of the patients were discharged on postoperative day 4. Similar findings were found in a study by Pradeep et al,[17](2015). In this study, majority of patients were discharged on post-operative day <5.

The most common finding on histopathological examination in our study was Leiomyoma (49.5%), followed by Adenomyosis (34.2%) which was similar to the studyby Somani et al.[26]

CONCLUSION

Vaginal hysterectomy has minimal intraoperative and post-operative complications, early mobilisation, fast recovery, and shorter hospital stay. A successful vaginal hysterectomy depends on careful selection of the patients, preparing for the procedure with knowledge and confidence and being skilled in a wide range of techniques.

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