

Analysis of Complications of Vaginal Hysterectomy

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Abstract: Vaginal hysterectomy is considered as one of the minimally invasive forms of hysterectomies with few complications and better outcomes. Previously 80% of hysterectomies were done abdominally but now more than 70% of hysterectomies are done by vaginal route because the complications are less compared to abdominal route. But it is associated with some complications both intraoperatively and in post operative period. **Objective:** To study the complications of vaginal hysterectomy in a tertiary care hospital. **Methodology:** A hospital based prospective study was conducted in the department of obstetrics and gynaecology in a tertiary care centre from 1st January 2022 to 1st January 2023. **Results:** 152 patients of different age groups and parities are studied with a mean age of 55 years. Most common indication being uterine prolapse seen in 89 % of cases and other indications like abnormal uterine bleeding in 6% and pelvic relaxation in 3.2% of cases. Intra operative complications like primary hemorrhage in 2.6%, bladder injury in 2.6%, bowel injury in 0.4%, and conversion to laprotomy in 0.6% of cases are seen. Post operative complications like secondary hemorrhage 1.4%, pyrexia in 14%, spinal headache in 9%, and pelvic hematoma in 2% of cases are seen. **Conclusion:** The overall complications for vaginal hysterectomy is low with most common being haemorrhage and visceral injury which require immediate assessment and intervention and post operatively is pelvic infections which significantly reduced with appropriate antibiotics.

Keywords: Vaginal hysterectomy, prolapse, abnormal uterine bleeding, haemorrhage, visceral injury.

1. Introduction

Vaginal hysterectomy is a very common gynecological procedure used to treat a wide range of gynecological pathologies. Soranus was the first one who performed vaginal hysterectomy⁽¹⁾

It ranks as one of the least and minimally invasive types of hysterectomies and has better outcomes and few complications compared to other types of hysterectomies.

Less pain, rapid recovery, faster return to work, low costs and low morbidity are the advantages of this procedure.

It is usually performed for benign reasons out of which the most common being pelvic organ prolapse⁽²⁾

Other indications for vaginal hysterectomy are Fibroid uterus, Adenomyosis, Abnormal uterine bleeding, Benign ovarian mass, Gynecological cancer etc⁽³⁾

But in some conditions vaginal hysterectomy is contraindicated. Some of the relative contraindications are large uterus, pelvic radiation, prior pelvic surgeries, morbid obesity, nulliparity, lack of uterine descent, suspected severe pelvic adhesion and anatomical distortion from pelvic inflammatory disease or endometriosis⁽⁴⁾

Vaginal hysterectomy is associated with some complications both intraoperatively and in post operative period.

Complications like bleeding, visceral injuries like bladder,

ureteral and bowel injuries, nerve injuries, anesthetic complications and rarely conversion to laparotomy are encountered during the surgery.

Complications seen in the post operative period are bowel obstruction, ileus, vaginal cuff dehiscence, infections like vaginal cuff cellulitis and pelvic abscess, fistulas like vesicovaginal, ureterovaginal and rectovaginal fistulas.

Most common sites of bleeding during vaginal hysterectomy are uterine vessels, utero ovarian ligament and vaginal cuff⁽⁵⁾

The risk of bladder injury increases with prior pelvic surgeries and concomitant bladder surgery⁽⁶⁾

Most common nerves prone to be injured are femoral, peroneal, tibial nerves. Nerve injury is seen mostly due to malpositioning of legs on stirrups

Uteral injuries most commonly occur during clamping and cutting of infundibulo pelvic ligament, separating the uterine vessels, separating the uterosacral cardinal ligament complex and at time of closure of vaginal apex⁽⁷⁾

2. Objective

- To evaluate the complications in vaginal hysterectomies.
- To analyze strategies to prevent or minimize complications.

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3. Materials and Methodology

A hospital based prospective study was conducted in department of obstetrics and Gynecology in a tertiary care hospital, from 1st January 2022 to 1st January 2023.

Structured questionnaires were used to collect data followed by clinical examination, intraoperative and post operative details after informed consent.

Sample Size: 152

Inclusion Criteria

- All patients who were admitted to the tertiary care centre during the study period who required vaginal hysterectomy F for indications, like prolapsed uteri, fibroid, adenomyosis, dysfunctional uterine bleeding, cervical intraepithelial neoplasia, etc. are collected.
- Intraoperative and postoperative complications were noted and analyzed.

Exclusion Criteria

- More than 16 weeks sized uterus.
- Endometriosis.

4. Results

152 patients of various ages included in study. The age distribution of patients was 35 - 75 years with a mean age of 55 yrs.

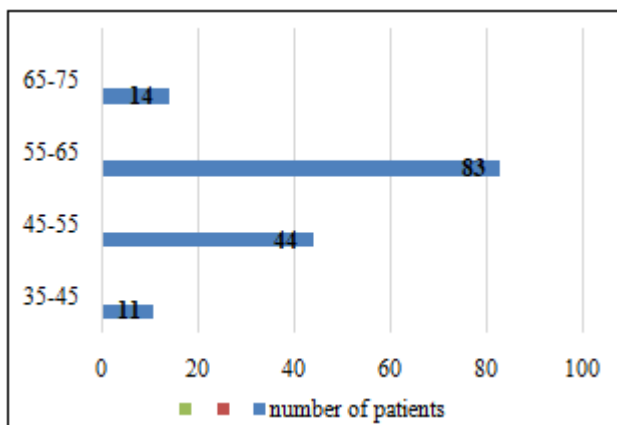


Chart Showing Age Distribution of Patients

Parity of patients:

In our study 26 % patients are with parity 2, 25 % of patients with parity 3 and 15 % with parity 4 and 13 % with parity > 2

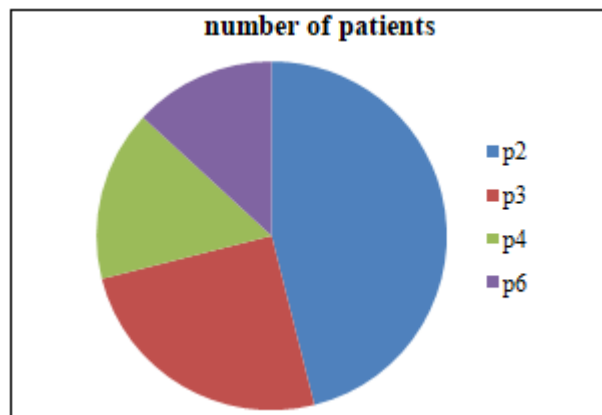


Figure 3: Distribution of Parity among the Patients Studied

Most common indication for vaginal hysterectomy in study subjects is pelvic organ prolapse 89%, abnormal uterine bleeding 6%, pelvic relaxation in 3.2%.

Indication	Number of patients
Pelvic organ prolapse (Prolapse with cystocele, rectocele, enterocele, Procidentia)	138 (136, 2)
Pelvic relaxation	5
Abnormal uterine bleeding	9

Table showing - Distribution of Indication for Vaginal Hysterectomy

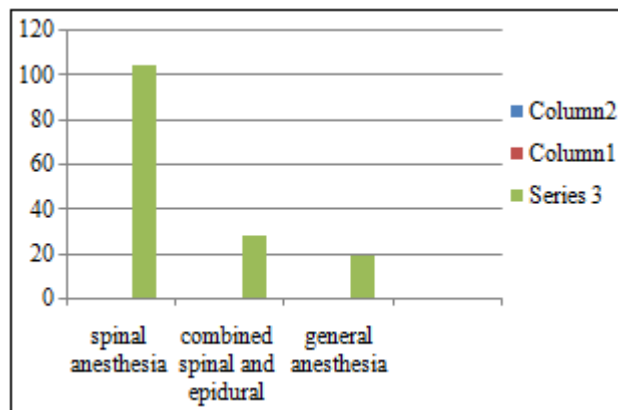


Chart showing type of anesthesia given to patients for vaginal hysterectomy

Out of 152 patients 69 of patients were given spinal anesthesia, 18% of patients were given combined spinal and epidural anesthesia, and 12 % patients were given general anesthesia.

In terms of duration of surgery, 2 hours is the average duration of surgery in 86% of patients, 2 and half hours in 7.2% and 3 hours in 5.9% cases.

Table showing Duration of Procedure in Vaginal Hysterectomy Patients

Duration of Surgery	Number of Patients
2 hours	132
2 and half hours	11
3 hours	9

Complications include intraoperative complications like primary haemorrhage in around 2.6% of cases Injury to viscera like bladder in 1.8% of cases and bowel injury seen in 0.4 % of cases and conversion to laparotomy is needed in

0.6% of cases. Post operative complications like secondary haemorrhage seen in 1.4 % of cases, pyrexia in 14% of patients, spinal headache in 9% of patients, pelvic haematoma in 2 % of cases, infections in 7 % of patients

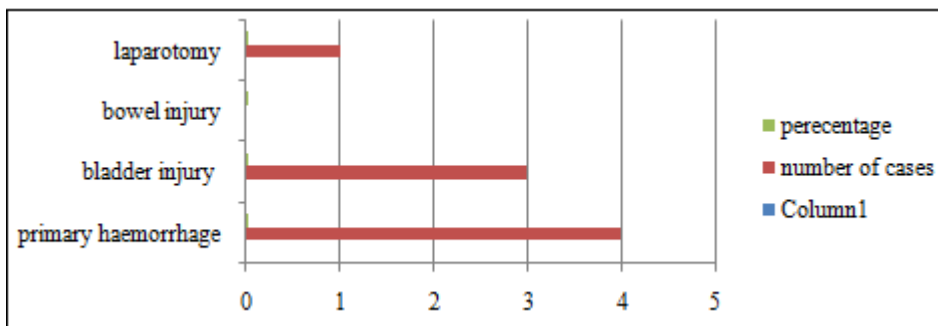


Chart showing distribution of intraoperative complications in vaginal hysterectomy

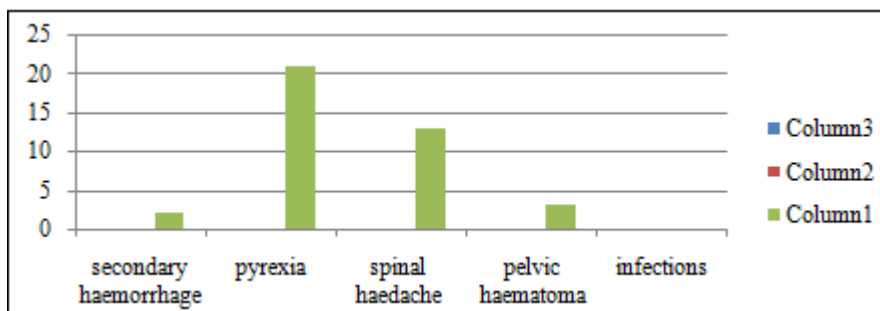


Chart showing distribution of postoperative complications in vaginal hysterectomy

5. Discussion

Vaginal hysterectomy is becoming popular now a days. But careful selection of case and proper reexamination of patient under anesthesia should be done to prevent complications.

Women of ages between 35 and 75 are being considered for the study. Our mean average age is 55 years and most common indication being uterovaginal prolapse.

Primary hemorrhage was found to be the most common complication.

Studies done by Mintz PD (1985), Seth S (2002), showed presence of primary hemorrhage in 17.5% and 2.4% of cases^(8, 9)

In our study primary hemorrhage was seen in 2.6% of cases and they were managed with blood transfusions.

This can be prevented by infiltrating cervix with vasoconstrictor prior to the surgery to reduce the blood loss. In case of bleeding evaluate the pedicles and religate them. If still there is persistent bleeding then go for packing, embolization and internal iliac ligation.

Vaginal apex is the most common site of bleeding seen during this procedure. So closure of the vaginal apex in running and locking fashion can be done to prevent bleeding from vaginal edges.

In a study done by Bright TC, Peters PC incidence of ureteral injury was found to be 0.5%.⁽¹⁰⁾

In a study done by Harkki Sirenp, Joberg SJ incidence of ureteric and bladder injuries was found to be 1/1000 and 0.01/1000 respectively.⁽¹¹⁾

In our study incidence of bladder injury was found to be 1.8% and managed by suturing the bladder in two layers and indwelling catheter for two weeks post operatively.

Bladder injuries can be minimized by catheterization during surgery from time to time and in women with previous cesarean section.

Ureteric injury can be prevented during the surgery by applying uterosacrals and Mackenrodts after bladder retraction.

In our study bowel injury was noted in 0.4% of cases which were managed by doing laprotomy.

In studies done by Copenhaver, White, Seth and Pratts incidence of conversion to laprotomy was found to be 0.6%, 0.6%, 0.03%, 0.006% respectively.^(12, 13, 14)

In our study fever in the post operative period which may be due to wound infection or pelvic abscess was seen in 14 % of cases and was managed with antibiotics.

Antibiotic prophylaxis given prior to within 60 minutes of

incision and betadine vaginal scrub before procedure can prevent the post operative wound infections.

In our study anesthetic complications like spinal headache was seen in 9 % cases which was managed by adequate hydration and medication.

6. Conclusion

Most difficult cases for vaginal hysterectomy are uterine prolapse when there is long standing, massive prolapsed uterus with vaginal eversion and more uterocervical length is seen.

But now a days incidence of uterine prolapse have been decreasing due to decreased parity and also increased rate of cesarean sections.

In other cases where nondescent vaginal hysterectomy is performed difficulty may be seen due to restricted mobility, narrow pubic angle and more volume.

Hence proper selection of cases, good preoperative preparation and post operative care are necessary to reduce the complications in both during surgery and in post operative period.

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