Original Research Article

# Study of clinical profile, indications and complications of hysterectomy at a tertiary hospital

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## Abstract

**Background:** Hysterectomy is a surgical procedure which involves uterus removal usually indicated in >40 years of age woman, multiparous woman or when associated with benign or malignant conditions. The aim of this study was to assess and study clinical profile, indications, complications amongst patients undergoing hysterectomy. **Material and Methods:** Present study was descriptive observational study, conducted among women of any age who undergo hysterectomy. **Results:** Out of 60 women, majority were from 41-50 years age group (38.3%), grand multipara (46.7%), were menstruating (71.7%). Chief complaints of the patients were menorrhagia (40%), mass coming out of vagina (38.3%), chronic abdominal pain (26.7%) and polymenorrhoea (15%). On clinical examination, size of the uterus revealed 6-8 weeks (23.3%), Normal size (21.7%), >12 weeks (21.7%) and Atrophied (16.7%). USG findings revealed findings of atrophied uterus (23.3%), Bulky uterus (21.7%), Fibroid (11.7%), Normal sized uterus (11.7%). Route of hysterectomy was vaginal in 45% cases, TAH in 33.3%, LAVH in 15% and NDVH in 6.7% cases. Intraoperative complications revealed blood loss (10 %) and bladder injury (3.3%). Mean operative duration of surgery was 95.25±44.52 minutes Histopathological report showed that in majority of the cases i.e. 36.7% had leiomyoma, 15% had adenomyosis, 5% had atrophied changes and 8.3% had serous cystadenoma of ovary. In majority of the patients, duration of hospitalization was between 5-10 days (91.7 %), followed by 11-15 days (5%) and 16-20 days (3.3%). Mean hospital stay was 6.61±4.07 days. **Conclusion:** Indications of hysterectomy in our study were as follows: UV prolapse in 22(36.7%), Fibroid in 18(30%), AUB in 11(18.3%), Route of hysterectomy was vaginal in 45% cases, TAH in 33.3%, LAVH in 15% and NDVH in 6.7% cases.

**Keywords:** hysterectomy, UV prolapse, fibroid, AUB, endometrial hyperplasia

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## INTRODUCTION

Hysterectomy is a surgical procedure which involves uterus removal usually indicated in >40 years of age woman, multiparous woman or when associated with benign or malignant conditions.[1] Hysterectomies performed for leiomyomas (most common indication), abnormal uterine bleeding, endometriosis, benign ovarian masses and uterine prolapse have decreased overtime.[2,3] A cross- sectional prevalence survey in 2015-2016, National Family Health Survey-4 collected the data on epidemiology of hysterectomy and self-reported reasons for undergoing the procedure for the first time who were in the reproductive age.[4,5] In the absence of a life-threatening emergency (e.g., uterine hemorrhage), the decision to proceed with hysterectomy is made mutually by the woman and her clinician based upon her functional impairment, childbearing plans, response to medical therapy, discussion of alternatives, and perception that the risks of the procedure are outweighed by the expected benefits.[6] Hysterectomies types are broadly divided

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Abdominal or vaginal based on route of surgery. These two varieties can be further divided into many types based on the route and surgical procedure options like, abdominal/vaginal hysterectomy, total Laparoscopy/ laparoscopic assisted vaginal hysterectomy, and robotic assisted laparoscopic hysterectomy, etc.[7] The aim of this study was to assess and study clinical profile, indications, complications amongst patients undergoing hysterectomy.

## MATERIAL AND METHODS

Present study was descriptive observational study, conducted in Department of Obstetrics And Gynecology, Vilasrao Deshmukh Government Medical College, Latur, India. Study duration was of 2 years (November 2019 to September 2021). Study was approved by institutional ethical committee.

**Inclusion criteria:** All the women of any age who undergo hysterectomy, willing to participate in the study after consent.

**Exclusion criteria:** Emergency Obstetric Hysterectomy. Those not willing to participate in the study.

All the patients included in the study were subjected to detailed history and clinical examination. All the preoperative investigations including Hb, CBC, Renal and Liver function tests, HIV, HbsAg, Ultrasonography, PAP smear were done. Fitness was attained and patient was posted for Hysterectomy. One dose of antibiotic was given pre operatively. Antibiotics were continued up to postoperative day 3. Pre anaesthetic evaluation was done before the surgery. Most of the patients posted for hysterectomy were operated under regional anaesthesia, spinal. Data regarding age, parity, uterine size, removal technique, blood loss, time of surgery, intra operative and postoperative complications, and hospital stay were analysed and evaluated. Time required for surgery was calculated from the first incision till complete vault closure. Blood loss during surgery was noted by the number of mops used. On an average one fourth soaked mop contained 50ml, one half soaked 100 ml and fully soaked mop contain 200ml of blood. Postoperative pain was measured as per visual analogue pain scale and pain score was calculated for each patient. Data was collected by using a structure proforma. Data entered in MS excel sheet and analysed by using SPSS 24.0 version IBM USA. Qualitative data was expressed in terms of proportions.

## RESULTS

Out of 60 women, majority were from 41-50 years age group (38.3%) followed by 31-40 Years. Mean age of the study population was 45.95±10.27 years. Majority of the women were grand multipara (46.7%). 19 (31.7%) had three children, 12 (20%) had two children and 1 (1.7%) had one child. Menstrual status of the patients revealed majority were menstruating (71.7%) and remaining 17(28.3%) were menopausal women. History of tubal ligation was present in 50 (62.5%) and LSCS in 2 (2.5%) cases.

**Table 1:** General characteristics

| Characteristics | Frequency | Percent |
|---|---|---|
| Age group in years | | |
| 21-30 | 2 | 3.3 |
| 31-40 | 19 | 31.7 |
| 41-50 | 23 | 38.3 |
| 51-60 | 11 | 18.3 |
| >60 | 5 | 8.3 |
| Age (in years) | 45.95 ± 10.27 | |
| Parity | | |
| 1 | 1 | 1.7 |
| 2 | 12 | 20.0 |
| 3 | 19 | 31.7 |
| ≥4 | 28 | 46.7 |
| Menstrual status | | |
| Menopausal | 17 | 28.3 |
| Menstruating | 43 | 71.7 |
| Previous pelvic surgery | | |
| LSCS | 2 | 2.5 |
| Tubal ligation | 50 | 62.5 |

The chief complaints of the patients were menorrhagia (40%), mass coming out of vagina (38.3%), chronic abdominal pain (26.7%) and polymenorrhoea (15%). On clinical examination, size of the uterus revealed 6-8 weeks (23.3%), Normal size (21.7%), >12 weeks (21.7%) and Atrophied (16.7%). USG findings revealed findings of atrophied uterus (23.3%), Bulky uterus (21.7%), Fibroid (11.7%), Normal sized uterus (11.7%), Adenomyosis (3.3%), Ovarian cyst (8.3%) and Ovarian cystadenoma (1.7%).

**Table 2:** Distribution according to history and examination

| Characteristics | Frequency | Percent |
|---|---|---|
| Chief complaints | | |
| Menorrhagia | 24 | 40.0 |
| Polymenorrhoea | 9 | 15.0 |
| Chronic abdominal pain | 16 | 26.7 |
| Mass coming out of vagina | 23 | 38.3 |
| Size of uterus | | |
| Normal size | 13 | 21.7 |
| 6-8 weeks | 14 | 23.3 |
| 8-10 weeks | 5 | 8.3 |
| 10-12 weeks | 5 | 8.3 |
| >12 weeks | 13 | 21.7 |
| Atrophied | 10 | 16.7 |
| USG findings | | |
| Bulky uterus | 13 | 21.7 |
| Fibroid | 7 | 11.7 |
| Normal sized uterus | 7 | 11.7 |
| Atrophied uterus | 14 | 23.3 |
| Adenomyosis | 2 | 3.3 |
| Ovarian cyst | 5 | 8.3 |
| Ovarian cystadenoma | 1 | 1.7 |

Common indications of hysterectomy in our study were UV prolapse (36.7%), Fibroid (30%), AUB (18.3%), Endometrial hyperplasia with ovarian cyst (6.7%), Fibroid with prolapse (5%), Adenomyosis (5%) and Ovarian cystadenoma (3.3%). Route of hysterectomy was vaginal in 45% cases, TAH in 33.3%, LAVH in 15% and NDVH in 6.7% cases.

**Table 3:** Indication and route of hysterectomy

| Characteristics | Frequency | Percent |
|---|---|---|
| Indications of hysterectomy | | |
| UV prolapse | 22 | 36.7 |
| Fibroid | 18 | 30.0 |
| AUB | 11 | 18.3 |
| Endometrial hyperplasia with ovarian cyst | 4 | 6.7 |
| Fibroid with prolapse | 3 | 5.0 |
| Adenomyosis | 3 | 5.0 |
| Ovarian cystadenoma | 2 | 3.3 |
| Route of hysterectomy | | |
| VH | 27 | 45.0 |
| TAH | 20 | 33.3 |
| LAVH | 9 | 15.0 |
| NDVH | 4 | 6.7 |

Intraoperative complications revealed blood loss (10 %) and bladder injury (3.3%). In majority of the patients, blood loss was less than 500 ml (86.7%), followed by blood loss more than 1500 ml (8.3%). Mean blood loss in our study was 342.5 ± 513.78 ml. Postoperative complications revealed febrile illness (13.3 %) followed by UTI (10 %), paralytic ileus (6.7 %) and wound gape (5 %).

**Table 4:** Complications and blood loss

| Complications | Frequency | Percent |
|---|---|---|
| Intraoperative | | |
| Blood loss requiring transfusion | 6 | 10.0 |
| Bladder injury | 2 | 3.3 |
| None | 52 | 86.7 |
| Blood loss (ml) | | |
| <500 | 52 | 86.7 |
| 500-1000 | 2 | 3.3 |
| 1000-1500 | 1 | 1.7 |
| >1500 | 5 | 8.3 |
| Blood loss in ML | 342.50 ± 513.78 | |
| Postoperative complications | | |
| Febrile illness | 8 | 13.3 |
| Paralytic ileus | 4 | 6.7 |
| Wound gape | 3 | 5.0 |
| UTI | 6 | 10.0 |

Operative time in majority of the cases was between 60-90 minutes (80 %) followed by 90-120 minutes (8.3%), 120-150 minutes (5 %) and > 150 minutes (6.7 %). Mean operative duration of surgery was 95.25±44.52 minutes

**Table 5:** Distribution according to operative time

| Operative time in minutes | Frequency | Percent |
|---|---|---|
| 60-90 | 48 | 80.0 |
| 90-120 | 5 | 8.3 |
| 120-150 | 3 | 5.0 |
| >150 | 4 | 6.7 |
| Mean Operative time in minute | 95.25 ± 44.52 | |

Histopathological report showed that in majority of the cases i.e. 36.7% had leiomyoma, 15% had adenomyosis, 5% had atrophied changes and 8.3% had serous cystadenoma of ovary.

**Table 6:** Distribution according to histopathological report

| Histopathological report | Frequency | Percent |
|---|---|---|
| Leiomyoma | 22 | 36.7 |
| Adenomyosis | 9 | 15.0 |
| Serous cystadenoma of ovary | 5 | 8.3 |
| No significant pathology | 21 | 35.0 |
| Atrophied | 3 | 5.0 |

In majority of the patients, duration of hospitalization was between 5-10 days (91.7 %), followed by 11-15 days (5%) and 16-20 days (3.3%). Mean hospital stay was 6.61±4.07 days.

**Table 7:** Distribution according to duration of hospitalisation

| Duration of hospitalisation (days) | Frequency | Percent |
|---|---|---|
| 5 to 10 | 55 | 91.7 |
| 11 to 15 | 3 | 5.0 |
| 16 to 20 | 2 | 3.3 |
| Mean Hospital stay (in days) | 6.61 ± 4.07 | |

## DISCUSSION

Hysterectomy is one of the most commonly performed major operations. Hysterectomies are performed vaginally, abdominally or with laparoscopic or robotic assistances. Hysterectomy has been associated with improvements in physical and mental quality-of-life measures, body image, and aspects of sexual activity, with few differences among surgical routes.[7,8] Hysterectomy can be performed vaginally, abdominally, laparoscopically, or with robot-assisted laparoscopy. Hysterectomy can also be performed by combining two of these four routes, such as in laparoscopically-assisted vaginal hysterectomy or laparoscopic hysterectomy combined with a mini-laparotomy to remove the uterine specimen from the peritoneal cavity. Abdominal hysterectomy is undoubtedly the most popular with a 70:30 ratio for abdominal versus vaginal route.[9] As per the first prevalence study of India, NFHS-4 (2015-2016),[3] 3.2 % women, between 15-49 years undergone hysterectomy. Age specific prevalence of hysterectomy was 0.36% among women aged 15-29, in women aged 30-39 years, it was 3.59% and in 40-49 years, it was 9.20%. Majority of the patients in our study were in the age group of 41-50 years (38.3%). Similar age

distribution was noted in other case studies by Saha R *et al.*,[11] Chandana C *et al.*,[12] Zahan AA *et al.*,[13] Kiran Kumari *et al.*,[14] Pandey MR *et al.*,[15] Most of the patients in our study were parous, this was comparable to other studies by Bandyopadhyay S *et al.*,[16] where majority of the patients were multiparous. Most of the patients in our study had more than one complaint. Most common complaint was menstrual irregularities, Menorrhagia being the most common, not responding to medical treatment. This study was comparable with other case studies done by Kiran Kumari *et al.*,[14] Pandey MR *et al.*,[15]. Majority of the cases had uterine size 6-8wks. Similar results are seen with Bandyopadhyay S *et al.*,[16] UV Prolapse is the most common indication for Hysterectomy in our study(36.7%). Second most common indication was Fibroid uterus. Fibroid is commonest indication in cases done by Chandan C *et al.*,[12] Tulasi P *et al.*,[17]. AUB is commonest indication in cases done by Zahan AA *et al.*,[13] Kiran Kumari *et al.*,[14] Route of hysterectomy in our study was vaginal in 45% cases, TAH in 33.3%, LAVH in 15% and NDVH in 6.7% cases. Abdominal hysterectomy was criticized for, high mean blood loss, morbidity, hospitalization period, and recovery time over other procedures. World health organization, Reproductive health library) Summaries based on Cochrane review as, vaginal hysterectomy (VH) showed shorter hospital stay compared to conventional abdominal hysterectomy (AH) and laparoscopic operated hysterectomy (LH). When compared to AH, both VH and LH had statistically equal shorter time to return to normal daily activities. Vaginal Hysterectomy appears to be, relatively advantageous or superior procedure in terms of patient safety, cost-effectiveness, faster recovery (short hospital stay), and dreaded complications. It is the only surgery which has a very good cosmetic benefit that is without any visible scar.[18] Non descent vaginal hysterectomy is considered safe for benign uterine conditions.[19] Among women undergoing hysterectomy for benign disease, non-descent vaginal hysterectomy appears to be superior to laparoscopic hysterectomy and abdominal hysterectomy, as it is associated with faster return to normal activities. On the other hand, vaginal hysterectomy can be performed under regional anaesthesia, with lower healthcare costs, with lesser complications and faster recovery.[21,22] It is preferred in obese patients and in patients in whom the risks of general anaesthesia are higher. It is also more cosmetic as there is no scar. Furthermore, chances of ureteric injury, bladder injury, paralytic ileus and haemorrhage are less in the vaginal route when compared with abdominal routes.[22] When technically feasible, vaginal hysterectomy should be performed in preference to abdominal hysterectomy because of more rapid recovery and fewer febrile episodes postoperatively. This approach is preferred in the patients who are overweight and obese.[23,24] Mean blood loss in our study was 342.5±513.78 ml. The blood loss was more in our study as compared to studies by Saha R *et al.*,[11] (205.26 ml), Chandana C *et al.*,[12] (150±65 ml), Zahan AA *et al.*,[13] (100± 22.43 ml), Thulasi P *et al.*,[17] (150±65 ml), Shanthi S *et al.*,[22] (150 ± 20 ml). Saha R *et al.*,[11] reported that Blood transfusion was required in seven cases. Zahan AA *et al.*,[13] reported that blood transfusion was required in four cases. Blood transfusion was given in 6 cases accounting for 10% in our study. Number of patients receiving blood transfusion were less in our study as compared to above mentioned studies. Mean duration of surgery was 95.25±44.52 minutes. Our study is comparable with study done by Saha R *et al.*,[11] (120 min), Chandana C *et al.*,[12] (70±20.5 min), Zahan AA *et al.*,[13] (50.5 ± 5.46 min), Thulasi P *et al.*,[17] (70 ± 20.5 min) and Shanthi S *et al.*,[22] (60±15 min) Postoperative complications revealed febrile illness in 13.3% cases, followed by UTI in 10%, paralytic ileus in 6.7% and wound gape in 5% cases. Saha R *et al.*,[11] reported that the most common complication was Febrile morbidity was present in 4.6% of cases. Kiran Kumari *et al.*,[15] observed the post op complications like fever, UTI were found in 6% and 4% respectively. While the vaginal route is the preferred approach for hysterectomy, other approaches and variations have been developed. One such example is single-port laparoscopy, a variant of the conventional laparoscopic technique. However, when compared with traditional laparoscopy for hysterectomy, single-port surgery can be more technically challenging to perform. Robot-assisted laparoscopy, a variation on the conventional laparoscopic technique, is also been used for hysterectomy

## CONCLUSION

Indications of hysterectomy in our study were as follows: UV prolapse in 22(36.7%), Fibroid in 18(30%), AUB in 11(18.3%), Endometrial hyperplasia with ovarian cyst in 4(6.7%), Fibroid with prolapse in 3 (5%), Adenomyosis in 3 (5%) and Ovarian cystadenoma in 2 (3.3%). Route of hysterectomy was vaginal in 45% cases, TAH in 33.3%, LAVH in 15% and NDVH in 6.7% cases. Postoperative complications revealed febrile illness in 13.3% cases, followed by UTI in 10%, paralytic ileus in 6.7% and wound gap in 5% cases.

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