Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/c9t57706

A STUDY ON EVALUATION OF VARIOUS FACTORS LEADING TO HYSTERECTOMIES IN A TERITIARY CARE CENTRE

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ABSTRACT

Background: Hysterectomy is a common surgical procedure performed to treat various gynecological conditions such as uterine fibroids, abnormal uterine bleeding, pelvic organ prolapse and cancers.[1] In tertiary care centers, where patients with complex cases are often referred, understanding the indications and other alternatives available prior to hysterectomy is crucial for optimizing patient care.[2] Factors such as patient education, treatment compliance, and socioeconomic status play an important role in determining the mode of treatment. However, medical therapies are often inadequate, which leads many patients to ultimately opt for surgery.[3] This study aims to explore the various profiles of patients undergoing abdominal hysterectomies in a tertiary care setting to better understand the clinical outcomes and factors influencing treatment decisions.

Aims and objectives: To identify various indications and risk factors for Hysterectomies in various gynaecological conditions.

Methods: A retrospective study was conducted on patients who underwent hysterectomy at a tertiary care center over a two-year period. The study included data on patient demographics, indications for surgery, alternative treatments used prior to hysterectomy, preoperative d & c, surgical techniques (abdominal, vaginal, or laparoscopic), intraoperative complications, and postoperative recovery.

Results: In this retrospective study of 152 case records of patients underwent hysterectomy at a tertiary care center, the majority were in the 41-55 years age group (62%), with fibroid uterus (35.53%) being the most common indication, followed by adenomyosis (11.84%) and abnormal uterine bleeding (AUB) (10.53%). The most frequent symptom was menstrual disturbances (61.2%), and the majority of procedures were abdominal (90.8%). Hormonal treatment was used in 50.4% of patients prior to surgery, and most patients had symptoms lasting 6-12 months (36.2%). Hypertension (26.3%) was the most common comorbidity, followed by hypothyroidism (15%). Histopathological findings revealed leiomyoma (36.1%) as the most prevalent pathology, with

combined leiomyoma and adenomyosis occurring in 17.2%. The most common postoperative complications were wound infections (7.9%) and urinary tract infections (6.6%).
Conclusion: This study provides a comprehensive overview of the factors associated with hysterectomies in a tertiary care center. The findings are in line with those of previous studies, highlighting that fibroids remain the leading indication for hysterectomy, followed by adenomyosis and abnormal uterine bleeding. The study also highlights the significant role of comorbidities in the patient population and the high utilization of hormonal therapies prior to surgery. Postoperative complications were generally low, with the most common being wound infections and UTIs. Further research with larger cohorts and long-term follow-up is needed to evaluate the long-term outcomes and complications associated with hysterectomy, particularly in patients with significant comorbidities.

Keywords: Abdominal Hysterectomy, Vaginal Hysterectomy, TLH, Fbroid, Parity, Pain Abdomen, Menstrual Symptoms, blood Loss, Postmenopausal.

INTRODUCTION

Hysterectomy for benign gynaecological disease, mostly abnormal uterine bleeding, prolapse or uterine fibroids, is one of the most frequent gynaecological procedures.[4] Approximately six hundred thousand women undergo this procedure annually in the United States, 30% of women by the age of 60.[5] There is limited evidence of hysterectomy in India because of a lack of data in large-scale, nationally representative health surveys. India's National Family Health Surveys in 2015-16 and 2019-20 reported that nearly 1 in 10 women have undergone hysterectomy by age 50, ranging up to 1 in 5 in the states of Andhra Pradesh and Telangana.[6] India is witnessing a rising trend of hysterectomy in recent time.[6]

Currently, there are five major approaches to hysterectomy for benign gynaecological disease: abdominal hysterectomy (AH), vaginal hysterectomy (VH), laparoscopic hysterectomy (LH), robotic-assisted hysterectomy (RH) and vaginal natural orifice hysterectomy (V-NOTES).[7] Within the LH category we further differentiate the laparoscopic-assisted vaginal hysterectomy (LAVH) from the total laparoscopic hysterectomy (TLH) and single-port laparoscopic hysterectomy (SP-LH). Abdominal hysterectomy, in particular, is a common approach due to its broad application in both benign and malignant gynecological diseases. While medical management can sometimes offer temporary relief, it frequently falls short in providing a long-term solution, necessitating the need for surgical intervention.

The choice of treatment is influenced by several factors, such as patient education, adherence to medical recommendations, and socioeconomic status, all of which impact decision-making. In many cases, these elements push patients towards choosing surgery despite the risks associated with the procedure.[8] Understanding the patient profile and the factors that drive the decision for abdominal hysterectomy is essential for improving clinical outcomes and enhancing postoperative care. This study aims to evaluate the clinical profile of hysterectomy patients at a tertiary care center, with an emphasis on the various factors influencing treatment decisions, surgical approaches, and recovery processes.

MATERIALS AND METHODS

This study is a retrospective analysis of patients who underwent hysterectomy at a tertiary care center over a 24 month period, from January 2023 to December 2024.

Study Population

The study included all female patients who underwent hysterectomy doe non- obstetric reasons during the specified period. Patients were selected based on inclusion criteria such as age ≥18 years, and those who had undergone abdominal, vaginal, or laparoscopic hysterectomy. Exclusion criteria included patients who had undergone obstetric hysterectomies and patients who did not give consent.

Data Collection

Patient data were retrieved from the hospital's medical records database. Information collected included:

- **Demographic Data**: Age, parity, and socioeconomic status.
- **Clinical History**: chief complaints, Indications for surgery, comorbidities, and previous gynecological treatments.
- **Surgical Details**: Type of hysterectomy performed (abdominal, vaginal, or laparoscopic)
- **Histopathology/ Specimen Report**

There were a total of patients in the study duration who had undergone hysterectomy. An extensive medical history was obtained for each patient prior to surgery, with detailed documentation of relevant gynecological care. Baseline investigations were conducted to assess the patient's overall health and suitability for surgery. These included chest radiography, electrocardiogram (ECG), hemoglobin levels, blood grouping with Rh factor, routine urine analysis, blood sugar levels, liver and kidney function tests, blood pressure measurement, and abdominopelvic ultrasound. Any underlying medical conditions, such as diabetes mellitus, hypertension, or ischemic heart disease, were managed collaboratively with the medical team. In cases where severe anemia was identified, patients received appropriate preoperative treatment, including blood transfusions or injectable iron. For patients presenting with postmenopausal bleeding or suspected abnormal bleeding, preoperative curettage was performed to exclude malignancies, and the study was conducted only after a definitive diagnosis was confirmed.

Statistical analysis was conducted using Microsoft Excel (Redmond, USA) to calculate the mean values and percentages for various parameters, including age distribution, parity, past surgical and medical history, hemoglobin levels upon admission, preoperative dilatation and curettage, and the indications for hysterectomy.

RESULTS

A retrospective study was conducted to analyze the outcomes and findings of hysterectomies performed at our hospital. A total of 152 patients who underwent hysterectomy were included in the study. The results are presented in various categories such as age distribution, parity, symptoms, route of surgery, indications, pre-operative treatments, duration of illness, comorbidities, histopathological findings, and postoperative complications.

Age Distribution of Patients

The age of the patients undergoing hysterectomy ranged from 25 to 70 years. The majority of patients (60.5%) were in the 41-55 years age group, followed by 27% in the 25-40 years group. Only 12.5% of the patients were between the ages of 56-70 years.

Age (years)	**Frequency**	**Percentage (%)**
25-40	41	27%
41-55	95	60.5%
56-70	16	12.5%
total	152	
Table 1		

Parity Distribution of Patients

The majority of the patients had 2 or more children, with 57% of patients being para 2, and 23.6% being para 3. The less common were nulliparous (1.3%) and para 6(0.6%).

Parity	Frequency	Percentage (%)
0	2	1.3%
1	13	8.4%
2	86	57%
3	36	23.6%
4	10	6.5%
5	4	2.6%
6	1	0.6%
Table 2		

Distribution of Patients According to Symptoms

Symptoms that patients presented with were diverse, with the most common being menstrual disturbances (61.2%), followed by leukorrhea (9.2%) and pain abdomen (8%).

Symptoms	Number of Patients	Percentage (%)
Menstrual disturbances	93	61.2%
Pain abdomen	12	8%
Leukorrhea	14	9.2%
Postmenopausal bleeding	10	6.6%
Mass per abdomen	8	5.3%
Mass per vagina	13	8.6%
Low back ache	4	2.6%
Urinary complaints	3	2%
Table 3		

Route

The majority of hysterectomies were performed through the abdominal route, which accounted for 90.8% of the cases.

Procedure	Frequency	Percentage
abdominal	132	87.34%
vaginal	14	8.86%
Laproscopy	6	3.79%
Table 4		

Indication for Hysterectomy

The most common indications for hysterectomy were leiomyoma (34.4%), followed by Adenomyosis (11.46%).

Indications	Number of Patients	Percentage (%)
Polyp	5	3.18%
Adenomyosis	18	11.46%
Leiomyoma	54	34.4%
Malignancy and Hyperplasia	12	7.64%
Not otherwise Classified	16	10.19%
Ovarian Dysfunction	14	8.9%
Endometrial Factors	4	2.54%
Iuterovaginal Prolapse	14	8.9%
Cervical Intraepithelial Neoplasia	3	1.91%
Pelvic Inflammatory Disease	4	2.54%
Post menopausal Bleeding	13	8.28%
Table 5		

Treatment used Prior to Hysterectomy

Regarding medical management for symptom control used prior to surgery, a significant proportion of patients (52.6%) received hormonal treatment, while the remaining patients received non-hormonal treatment-NSAIDS, Antibiotics.

Treatment	Frequency	Percentage
Non hormonal	72	47.3%
hormonal	80	52.6%
	152	
Table 6		

Duration of Illness

The duration of illness before undergoing hysterectomy showed that a majority of the patients had been symptomatic for 6-12months (36.2%)

Duration	Frequency	Percentage
< 6months	28	18.4%
6-12months	55	36.2%
1-2years	44	30%
>2years	25	16.4%
Table 7		

Comorbidities

Hypertension (26.3%) was the most common medical disorder, followed by **hypothyroidism** (15%) and **diabetes mellitus** (11.8%). The detailed comorbidity profile is as follows:

Comorbidities	Frequency	Percentage
Hypertension	40	26.3%
Diabetes Mellitus	18	11.8%
Hypertension + Diabetes	15	9.8%
Ischemic heart disease	12	7.9%
Bronchial Asthma	10	6.6%
HIV	4	2.6%
Epilepsy	3	2%
Hypothyroid	23	15%
Table 8		

Histopathology

Histopathological findings showed that the majority of patients had leiomyoma (36.1%) and combined leiomyoma and adenomyosis (17.2%). Other findings included adenomyosis (9.9%) and endometrial hyperplasia (13.16%). The distribution is as follows:

Histopathology	Number of Patients	Percentage (%)
Leiomyoma	55	36.1%
Adenomyosis	15	9.9%
Chronic cervicitis	7	4.6%
CIN 123	4	2.6%
Endometrial hyperplasia	20	13.16%
Atrophic Endometrium	5	3.2%
Endometrium proliferative phase	8	5.2%
Disordered proliferative endometrium	6	3.9%
Combined leiomyoma and adenomyosis	26	17.2%
Endometrial polyp	4	2.6%
Table 9		

Postop Complications

The most common postoperative complications encountered were wound infection (7.9%) and UTI (6.6%). Other complications included unexplained fever (5.2%) and wound gape (6.5%). The detailed postoperative complications are as follows:

Post op Complications	Number of Patients	Percentage (%)
Wound infection	12	7.9%
Unexplained fever	8	5.2%
Delayed bowel sounds	4	2.6%
UTI	10	6.6%
Lower respiratory tract infection	6	4%
gastroentritis	3	2%
Vesicovaginal fistula	2	1.3%
Required resuturing	10	6.5%
Table 10		

DISCUSSION

The findings from this retrospective study on hysterectomies performed at our hospital provide valuable insights into the demographics, clinical characteristics, indications for surgery, and postoperative outcomes. The study involved 152 patients, with the majority being in the 41–55 years age group, which aligns with other studies reporting that hysterectomy is most commonly performed during perimenopausal and early menopausal years.[9]

The age distribution in this study showed that the highest frequency of hysterectomies occurred in the 41–55 years age group, accounting for 60.5% of the total sample. This finding is consistent with previous studies, by Al-Habib et al., who reported that the majority of hysterectomy patients were in the perimenopausal age group.[10] In our study, 27% of patients were aged 25–40 years, which is somewhat higher than the 15 – 20% seen in similar studies.[11] This younger age group likely reflects the increasing prevalence of benign gynecological conditions such as fibroids, endometriosis, and abnormal uterine bleeding (AUB), which may necessitate early surgical intervention. In terms of parity, this study found that 57% of patients had 2 children, and 30% had 3 or more children. These findings are comparable to Rashmi et al., who also noted higher parity in patients undergoing hysterectomy.[12] The nulliparous group in this study was smaller (1.3%), similar to studies by Bhattacharyya et al., who reported a similarly low percentage.[13]

The most common indication for hysterectomy in this study was fibroid uterus (35.53%), followed by adenomyosis (11.84%) and AUB (10.53%). These findings align with the work of Sharma et al., who identified fibroids as the most common indication, accounting for 30–40% of cases.[14]

The proportion of AUB as an indication in our study (10.53%) is slightly higher than that reported by Rashid et al.[15] Endometrial hyperplasia (7.89%) was also a common indication, a finding similar to Sharma et al.[14] The presence of benign ovarian tumors and endometrial polyps in our sample (9.21% and 3.29%) is consistent with Srinivasan et al.[16]

In this study, hormonal therapy was used in 53% of cases prior to hysterectomy. This is consistent with the data from Al-Habib et al., who reported the use of hormonal therapies like progestins and GnRH analogs before surgery.[10] Non-hormonal treatments (47.3%) including NSAIDs and tranexamic acid were also used, similar to practices reported by Srinivasan et al.[16]

The majority of patients (36.2%) were symptomatic for 6–12 months before surgery, followed by 30% for 1–2 years. The relatively small percentage (18.4%) of patients with symptoms lasting <6 months suggests that surgery is often considered after prolonged symptoms or failed medical management.

The prevalence of comorbidities in this study was high, with hypertension (26.3%) and hypothyroidism (15%) being the most common. This is consistent with the findings of Rashmi et al., who reported a high prevalence of hypertension and diabetes among hysterectomy patients.[12]

The presence of hypertension and diabetes in 9.8% of patients mirrors the data by Bhattacharyya et al.[13]

The histopathological findings in this study show that leiomyoma (36.1%) was the most common pathology, followed by adenomyosis (9.9%) and endometrial hyperplasia (13.16%). These findings align with Sharma et al., who reported fibroids as the most common histological diagnosis.[14] The presence of combined leiomyoma and adenomyosis in 17.2% also mirrors patterns found in Rashid et al.[15]

In terms of postoperative complications, the most common were wound infection (7.9%) and urinary tract infections (6.6%). The occurrence of required resuturing (6.5%) is similar to data from Sharma et al., who found lower but still notable rates of surgical complications.[17]

CONCLUSION

This study provides a comprehensive overview of the factors associated with hysterectomies in a tertiary care center. The findings are in line with those of previous studies, highlighting that fibroids remain the leading indication for hysterectomy, followed by adenomyosis and abnormal uterine bleeding. The study also highlights the significant role of comorbidities in the patient population and the high utilization of hormonal therapies prior to surgery. Postoperative complications were generally low, with the most common being wound infections and UTIs. Further research with larger cohorts and long-term follow-up is needed to evaluate the long- term outcomes and complications associated with hysterectomy, particularly in patients with significant comorbidities.

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