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ORIGINAL ARTICLE

Intra-Operative and Post-Operative Common Complications of Hysterectomy

MARRIAM ASHRAF[1], LAIBA ZAHID[2], FAROOQ AHMAD[3], MUHAMMAD YOUSAF[4], SABA NASEEM[5], GHULAM MOHI UD DIN[6]
[1]*Operation Theater Technologist, Department of Health Professional Technologies, Faculty of Allied Health Sciences, The University of Lahore, Pakistan.*
[2]*Lecturer, Department of Health Professional Technologies, Faculty of Allied Health Sciences, The University of Lahore, Pakistan.*
[3]*Operation Theater Technologist, OT Incharge of Allied Health Hospital & Research Centre.*
[4]*House Officer, Al-Aleem Medical College, Gulab Devi Chest Hospital.*
[5]*Operation Theater Technologist, Department of Health Professional Technologies, Faculty of Allied Health Sciences, The University of Lahore, Pakistan.*
[6]*Operation Theater Technologist, Department of Health Professional Technologies, Faculty of Allied Health Sciences, The University of Lahore, Pakistan.*
Correspondence author: Laiba Zahid, Email: laiba.zahid@dhpt.uol.edu.pk

ABSTRACT

Background: The most prevalent gynaecological surgeries in the US is the hysterectomy. With more than 600,000 procedures carried out year. This study aims to find intra-operative and post-operative common complications of hysterectomy.

Methods: A study conducted that was cross-sectional in the Unit 1 Gynecological Department Services Hospital in Lahore. The purposive sampling technique was applied to collect data. Total 120 gynecologist's participants were investigated during this research. The target demographic was between the ages of 25 and 50. Consultants, PGRs, and SRs completed the questionnaire. The information gathered was written down, compared, and then examined.

Results: According to the findings of this study, the most common intra-operative complication of hysterectomy is bowel injury (16.7%), followed by genitourinary (GU) and gastrointestinal (GI) tract injury (0.8%). The most prevalent post-operative complication was anuria (19.2%). Pulmonary Embolism (Bronchitis, Pulmonary Collapse) was responsible for 8% of the problems, whereas Hematoma Formation was responsible for 19.2%.

Practical implication: The research on the common complications hysterectomy in the intra and post operative settings will allow for us to plan interventions in accordance to these complications which will better the medical intervention procedure and add to the literature of the subject.

Conclusion: It is clear that the most common intra-operative complication of hysterectomy is Bowel Injury, the most common post-operative complication is Anuria.

Keywords: Hysterectomy, Abdominal hysterectomy, vaginal hysterectomy, Intra-operative complications, Post-operative complications, surgical procedures, operating room.

INTRODUCTION

The most common gynecologic procedure is hysterectomy, with over 600,000 surgeries carried out annually in the United States.[1,2] Uterine fibroids are the most prevalent reason for hysterectomies, accounting for over 40% of all procedures. [3]. Mostly women prefer minor surgery (MIS), which is least invasive and needs less downtime, when surgery is essential.[4] However, in order to remove the uterus through a smaller incision or the vaginal canal, minimally-invasive surgical techniques may require the uterus to be morcellated inside the peritoneal cavity. Morcellation has the potential to spread either benign or malignant illness.[5] Between 1994 and 1999, the most common non-surgical procedure conducted on women was a hysterectomy, with one in nine women between the ages of 35 and 45 receiving one. 6 Uterine hysterectomy (UH), laparoscopic hysterectomy (LH), and artificial hysterectomy are the three types of microsurgical hysterectomy (MIH), with total abdominal hysterectomy (TAH) being the most invasive. Even though MIH is linked to fewer issues, not all patients are suitable candidates. In order to determine whether a patient is a candidate for MIH, the surgeon and patient should consider the patient's underlying comorbidities, the condition's suitability for MIH, the risks and advantages of the TAH procedure versus MIH, as well as the surgeon's and the treatment facility's experience with the various techniques. On the other hand, individual doctors or healthcare institutions could struggle to spot changes in their routines that might signify excessive usage of TAH.[7] Uterine and Less after problems and internal bleeding are associated with surgical operation. Compared to laparotomy, as well as very few postoperative wound complications, incidents of deep vein thrombosis, septic shock, and fistulae, decreased mortality, improved quality of life, a quicker recovery time and shorter hospital stay without an increase in retain ability or revascularization rates, and lower cost of healthcare. [8-12]. A hysterectomy can result in a variety of complications, including anatomical (digestive injuries, genital tract injuries, neurological diseases, and uterine cuff dilatation), infective (genital cuff folliculitis, carrying the virus inflammations and internal bleeding, bloodstream infections, urinary infections, respiratory infections, and fractious comorbidities), and pathogenic (cancerous and thromboembolism).[13] Certain issues can be characterized as preoperative (occurring less than a week after procedure) or delayed (1-6 weeks after surgery). Temperature, bowel obstruction, blood clot, Pathogens that cause gastroenteritis, and postoperative hemorrhage are examples of perioperative problems, while wound infections, sarcoma, hematomas, lymphocytes, gastrointestinal injuries, and genital cuff detachment are examples of delayed problems. Additionally, there may be a higher chance of urine retention, uterine system collapse, and genital system perforation illness.[14] The foundation for this thorough surgical approach to hysterectomy was built by the greatest experts in gynaecology and obstetrics. In the Middle Ages, there were numerous stories of its use, almost always for the removal of a twisted womb, and the victims rarely made it out alive. With the development of anaesthetic, medications and prevention of infection, intravenous fluids, and subcutaneously, hysterectomy became healthier. Prior to the invention of Kurt Semm conducted the first laparoscopy operation in Kiel in 1984, and Harry Reich executed the procedure in Kingston, Pennsylvania, in 1988. Until Johannes Pfannenstiel's invention of the transversal abdominal incisions in the 1900s, there was little progress in hysterectomy methods. After receiving approval from the Food and Drug Administration in 2005, A first menopause performed with an advanced robotic technology. A first menopause performed with an advanced robotic technology, spurred by technological advancements.[15] In this era of worldwide connectivity, it appears higher then fitting create a specialty Renowned medical professionals, academics, and lecturers from all over the world contribute to this professional book about hysterectomy. The publishers have assembled excellent publication which is suitable for a variety of customers, for beginners for gynecological specialists, with the help of more than 200 interdisciplinary scholars. This nearby books similarly discusses experts on various surgical specialties who deal with the interdisciplinary issues related with hysterectomy, including conservative gynecologists, medical specialists, abdomen doctors, physicians, radiographers, and anesthetist's. even so there is a

deluge some writings about the subject, it holistic the uterus procedure involves special that because it, on covers both an significant context of which most effective model - based methods currently in use and the prospects for such present are envisaged by best, most contemporary, diverse writers.[16]The etonogestrel intrauterine device, various uterine burning methods, and umbilical artery emboli for fibroids are a few other alternatives to hysterectomy that are currently accessible. The scope of this investigation does not include these alternate methods. Once a hysterectomy is decided upon, the choice of hysterectomy procedure is selected based on a variety of outcome metrics, the rate of complications being likely the most significant.[17]Conditions like bleeding issues, uterine type of illness, ovarian cysts, uterine distention, and cancers of the inner genital organs are among the manifestations. In around 50% of patients, concurrent bilateral oophorectomy is performed. Ovarian cancer risk is nearly eliminated as a result, but the resulting hormone deficiency may be more harmful to women's health.[18] Significant perioperative mortality from genital surgery might include intestinal and urogenital injuries, infections, bleeding, thrombosis, and even death. Most of these issues have been reduced thanks to improvements in surgical methods, perioperative anesthesia, and postoperative care. Lower urinary system injuries during gynecological operations are still one area, nonetheless, where patients can experience severe morbidity and mortality.[19]

METHODS

It was a Cross-Sectional Descriptive Study. The Date was collected from Unit 1 Gynecology Department Services Hospital Lahore. The study was completed in 4 months in (Nov 2021 to Feb 2022) of duration. A purposive sampling technique was used to gather the data. It was a hospital-based study in which 120 participants were included. The sample size was calculated by using Raosoft software. Prior to data collection, participants were informed about the purpose of data. Their consent was taken before data collection and their permission were also taken for use in research writing. All hysterectomy patients were included. Abdominal and vaginal hysterectomy .The patient undergoing hysterectomy with other co-morbidities were excluded. Frequency distribution method was applied for data analysis by using SPSS version 2021.

RESULTS

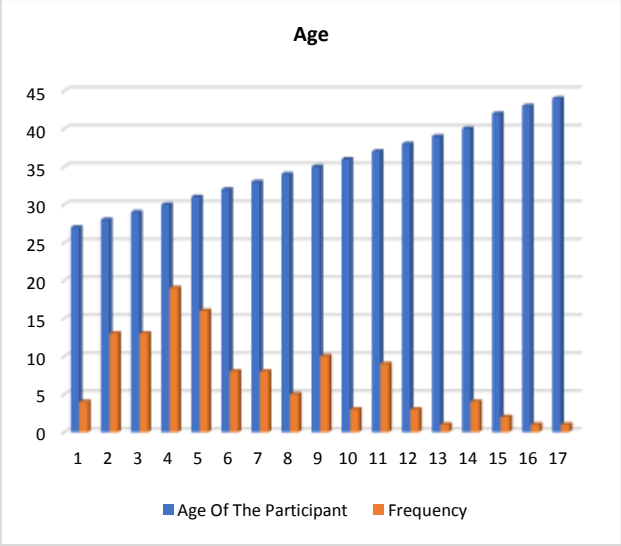

Figure 1: Describes the Age of Participant in term of frequencies and percentages.

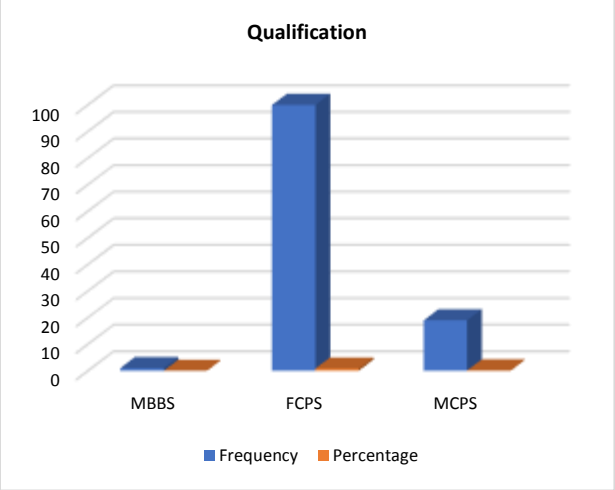

Figure 2: Describes the Surgeon Qualifications in term of frequencies and percentages. 100(83.3%) were FCPS, 19(15.8%) were MCPS, 1(8%) were MBBS.

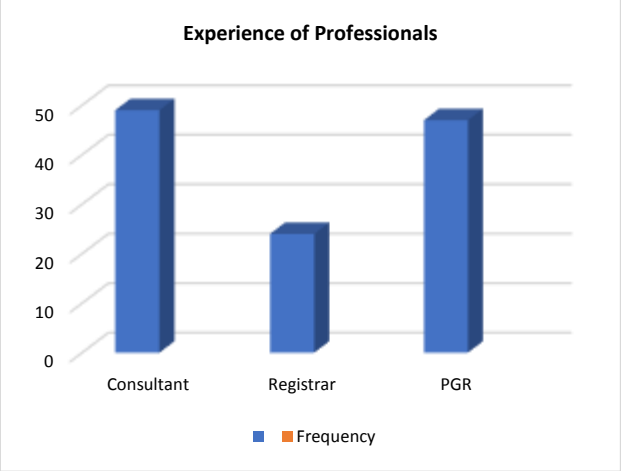

Figure 3: Describe the frequency of Surgeon Experience in term of frequencies and percentages. 49(40.8%) were Consultant, 24(20.0%) were Registrar, 47(39.2%) were PGRs.

Table 1: Describe the frequency of hysterectomy performed by surgeon according to Hierarchy.

Surgeon Positions	Abdominal	Vaginal	Total
Consultant	27	19	46
Registrar	24	17	41
PGR	21	12	33
Total	72	48	120

Table 2: Describe the indications of hysterectomy in term of frequencies and percentages. Fibroid uterus 22(18.3%), Utero-vaginal prolapse 10(8.3%), Endometriosis 09(7.5%), Uterine rupture 11(9.1%), Heavy bleeding 25(20.8%), Obstetric cause 2(1.6%), Postmenopausal bleeding 6(5%), Endometrial hyperplasia 11(9.1%), Ovary cyst 19(15.8%), Pelvic infection 5(4.1%).

Indication of hysterectomy	Frequency	Percentage
Fibroid uterus	22	18.3%
Utero-vaginal prolapse	10	8.3%
Endometriosis	09	7.5%
Uterine rupture	11	9.1%
Heavy bleeding	25	20.8%
Obstetric cause	2	1.6%
Postmenopausal bleeding	6	5%
Endometrial hyperplasia	11	9.1%
Ovary cyst	19	15.8%
Pelvic infection	5	4.1%

Table 3: Describe the Intra-operative complications of hysterectomy patients. This describes the frequencies of different complications, 5(4.2%) patients had vascular complications, 16(13.3) had pelvic bleeding, 19(15.8%) had ureter-vaginal fistula complications, 16(13.3%) patients with ligation of external iliac artery, 20(16.7%) had bowel injury, 19(15.8%) patients with bladder injury, 16(13.3%) patients with ureteric injury complications, 8(6.7%) had hemorrhage complications, 1(0.8%) with Genitourinary (GU) and Gastrointestinal (GI) tract injury. This shows that the most common intra-operative complication with higher percentage was Bowel Injury and the complication with lower percentage was Genitourinary (GU) and Gastrointestinal (GI) tract injury.

Intra-operative complications	Frequency	Percent
Vascular injury	5	4.2%
Pelvic Bleeding	16	13.3%
Ureter-Vaginal Fistula	19	15.8%
Ligation of external iliac artery	16	13.3%
Bowel injury	20	16.7%
Bladder injury	19	15.8%
Ureteric injury	16	13.3%
Hemorrhage	8	6.7%
Genitourinary(GU) and Gastrointestinal (GI) tract injury	1	0.8%
Total	120	100.0%

Table 4: Describe the post-operative complications of hysterectomy patients. This describes the frequencies of different complications, 14(11.7%) patients had Wound site infection, 7(5.8%) patients had Hemorrhage, 11(9.2%) patients had Intestinal Complication(acute gastric dilatation), 1(8%) patients had Pulmonary Embolism (Bronchitis, pulmonary collapse), 23(19.2%) patients had Anuria, 6(5.0%) patients had Anesthetic Complication (cyanosis, vomiting), 21(17.5%) patients had Remote Complication(vaginal discharge, vaginal prolapse), 23(19.2) patients had Hematoma Formation, 11(9.2%) patients had Incisional hernia, 3(2.5%) patients had Ascites (Collection of fluid in abdominal cavity), This shows that the most common post-operative complication with higher percentage was Anuria and Hematoma Formation and the complication with lower percentage was Pulmonary Embolism (Bronchitis, pulmonary collapse).

Post-Operative Complications	Frequency	Percent
Wound site infection	14	11.7%
Hemorrhage	7	5.8%
Intestinal Complication(acute gastric dilatation)	11	9.2%
Pulmonary Embolism (Bronchitis, pulmonary collapse)	1	0.8%
Anuria	23	19.2%
Anesthetic Complication (cyanosis, vomiting)	6	5.0%
Remote Complication(vaginal discharge, vaginal prolapse)	21	17.5%
Hematoma Formation	23	19.2%
Incisional hernia	11	9.2%
Ascites (Collection of fluid in abdominal cavity)	3	2.5%
Total	120	100.0%

DISCUSSION

A hysterectomy is a most typical gynecological operation. The goal of the study was to identify the most frequent intraoperative and post-operative problems following hysterectomy. A total of 120 surgeons were involved in the study, with 49% percent of them being consultants, 24% percent being registrars, and 47%percent being PGRs. In order to identify the most common hysterectomy complications, By examining a representative group of surgical training and experience while remaining cost-effective, this study aims to fill the knowledge gap. The findings of this study show that bowel injury is the most common intra-operative hysterectomy complication, and anuria and hematoma formation are the most common post-operative hysterectomy complications. Complications of hysterectomy vary based on the surgical method and technique used. Each patient may encounter distinct intra- or post-operative complications after a hysterectomy. Each woman scheduled for hysterectomy should be informed about the benefits and drawbacks of all possible hysterectomy options, including the possibility of an LH done by a colleague. According to a recent study, half of the women were unaware of the benefits and drawbacks of various techniques, and one in every five women had no idea which route to hysterectomy was planned for them.[20]

This study was conducted on finding the "Severe Hysterectomy Complications According to the study's findings, postoperative visits were provided in 26,973 (72%) of the cases. The age of patients having hysterectomies was 45 on average. After surgery, abnormal vaginal hemorrhage was the most frequent consequence (46%), preceded by malignancies (19%) and prolapse (19%). pelvic mass (3%).According to the present research the result show that the average age of the patients were 30 years and the most common intra-operative complication were bowel injury and the most common post-operative complication were anuria and hematoma formation.[21]

Scientists conducted a study entitled following surgery via uterine, laparoscopy, or abdomen means, uterine weight and complications. The findings of this research were When the subgroup undergoing minimally invasive surgery (8%), overall frequency major severe complications within 30 days increased almost twice as high 15% of such sample underwent total surgery. in contrast toward a laparoscopy operation, abdominal surgery sexhibited a noticeably greater rate of complications related to uterine weight, with an almost 80% increase in complications. The current study also reveal that the patient which were undergoing hysterectomy had many complications after surgery such as bowel injury, Pelvic Bleeding, bladder injury, Anuria, Hematoma Wound site infection.[22]

CONCLUSION

It is concluded that the most common intra-operative complications of hysterectomy were Bowel Injury, Pelvic Bleeding, bladder injury. The most common post-operative complications were Anuria, Hematoma Formation, and Wound site infection.

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