

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20242070>

Original Research Article

A study of different routes of hysterectomies and its outcome in benign gynaecological conditions in tertiary care centre in Tamil Nadu

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Received: 02 June 2024

Accepted: 02 July 2024

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ABSTRACT

Background: Hysterectomy is the most frequently performed major surgical procedure in gynaecology. It is an efficacious treatment option for numerous gynaecological conditions. This study aimed to investigate the different routes of hysterectomies, such as abdominal, vaginal, and laparoscopic, and their outcomes in benign gynaecological diseases in a tertiary care centre in Tamil Nadu.

Methods: This retrospective observational study included 200 patients who were admitted to the department of obstetrics and gynaecology at Chettinad Hospital and Research Institute, Tamil Nadu, India underwent hysterectomy between January 2021 and January 2023, and were collected from the MRD. Patient history included age, parity, indication for surgery, duration of surgery, route of hysterectomy, intraoperative or postoperative complications, duration of hospital stay were collected.

Results: This study analysed 200 patients who underwent hysterectomy, with the majority aged between 40-50 years (60%) and multiparous women (85%). The most common indications were abnormal uterine bleeding (80%), uterine prolapse (12%), benign ovarian cyst (5%) and post-menopausal bleeding (3%). Total abdominal hysterectomy (49%) was the most common approach, followed by vaginal/non-descent hysterectomy (19.5%), total laparoscopic hysterectomy (16.5%), and laparoscopic-assisted vaginal hysterectomy (15%). Complications included wound infections (3.5%), excessive bleeding (3%), bladder injuries (1%) and ureter injury (0.5%). The procedure duration and hospital stay were shorter for vaginal and laparoscopic approaches than for open abdominal hysterectomy. The laparoscopic approach had the lowest rates of complications such as bladder injuries and excessive bleeding.

Conclusions: Vaginal hysterectomy is preferred for uterine prolapse, whereas laparoscopic techniques offer benefits such as reduced blood loss and lesser hospital stay and morbidities. Although rare, complications emphasize the need for careful postoperative monitoring to optimize patient care.

Keywords: Hysterectomy, Benign gynaecological conditions, Surgical approaches, Outcomes, Complications

INTRODUCTION

A substantial number of women undergo hysterectomy annually, and 70% of hysterectomies are performed for benign indications including leiomyoma, adenomyosis, and uterine prolapse. To ensure that each patient receives the best possible care at reasonable costs, Gynaecologists must closely analyse the recent data comparing surgical

approaches to hysterectomies.¹ Hysterectomy stands as among the surgeries most frequently conducted globally. Reasons for undergoing hysterectomies encompass prevalent conditions such as abnormal uterine bleeding, fibroids, adenomyosis, endometrial lesions, and less commonly, tumours of the female genital tract.²

Abdominal hysterectomy is associated with more morbidity and less favourable medical outcomes, thereby

supporting its use only when documented pathological conditions preclude the use and efficiency of the vaginal route.³ Various types of hysterectomies are performed, including subtotal hysterectomy, total abdominal hysterectomy with or without salpingo-oophorectomy, vaginal hysterectomy, and laparoscopic procedures. Dysfunctional uterine bleeding is diagnosed by ruling out other causes, requiring a thorough histopathological examination of the female genital tract to confirm the absence of organic causes for AUB.⁵ Several conditions necessitate uterine removal despite no apparent gross or microscopic pathology even after a thorough examination. These include the management of ovarian, fallopian tube, and vaginal malignancies, pelvic inflammatory disease, endometriosis, pelvic pain, and pelvic tuberculosis.⁶

Hysterectomy can be performed via two approaches: abdominal or vaginal. The vaginal approach is favoured for a prolapsed uterus, while the abdominal route is utilised for pathologies involving the endo-myometrium and other reproductive organs. It may involve unilateral or bilateral salpingo-oophorectomy, depending on the case.⁷ This study focused on analysing the routes of hysterectomy and its complications, where the types of hysterectomy are based on the indication of hysterectomy, uterine size, vaginal access, pelvic adhesion, and competency of the surgeon and choice of women undergoing hysterectomy, uterine size, vaginal access, pelvic adhesion, and competency of the surgeon and choice of hysterectomy.

Aim

This study aimed to investigate the different routes of hysterectomies, such as abdominal, vaginal, and laparoscopic, and their outcomes in benign gynaecological diseases in a tertiary care centre in Tamil Nadu.

METHODS

This retrospective observational study was conducted on 200 patients who were admitted to the department of obstetrics and gynaecology, who underwent hysterectomy between January 2021 and January 2023, and were collected from the gynaecology OT register. Ethical committee approval and informed consent were obtained before the commencement of the study.

Inclusion criteria

All patients who underwent hysterectomy with or without salpingo-oophorectomy for benign conditions, such as uterine prolapse, AUB associated with polyps, fibroids, adenomyosis, endometrial hyperplasia, ovulatory dysfunction not responding to medical management, and benign ovarian mass, were included in the study.

Exclusion criteria

Patients with endometrial carcinoma, malignant ovarian tumours, or staging laparotomy were excluded.

Details such as the name of the patient, UHID number, diagnosis, indication of the surgery, duration of the surgery, route of hysterectomy, intraoperative or postoperative complications, and duration of hospital stay were considered, and additional details were obtained from the medical records department. All the data are presented as frequencies and percentages.

RESULTS

Of the 200 patients, the majority (60%) were aged between 40-50 years, 25% were over 50 years old, and 15% were under 40 years old. In terms of parity, most patients (55%) had 2 previous deliveries, 30% had more than 2 deliveries, and 15% had 0 or 1 delivery. The most common indications for hysterectomy were abnormal uterine bleeding AUB-L (44.5%), AUB-A (18%), AUB-P (13.5%), uterine prolapse (12%), benign ovarian cyst (5%) and post-menopausal bleeding (3%). Approximately 28% of the patients had a previous caesarean section, while 7% had a prior laparotomy.

Table 1: Demographic details of the patient.

Variables	Count	Percentage
Age		
<40	30	15
40-50	120	60
>50	50	25
Parity		
0	12	6
1	18	9
2	110	55
>2	60	30
Previous pelvic surgery		
Nil	130	65
LSCS	56	28
Previous laparotomy	14	7
Indications		
Uterine prolapse	24	12
AUB-L	89	44.5
AUB-A	36	18
AUB-E	8	4
AUB-P	27	13.5
PMB	6	3
Benign ovarian cyst	10	5
Routes of hysterectomy		
VH/NDVH	39	19.5
TAH	98	49
LAVH	30	15
TLH	33	16.5
Complications		
Excessive bleeding	6	3
Bladder injury	2	1
Ureter damage	1	0.5
Wound site infection	7	3.5

The most common surgical approach was total abdominal hysterectomy (49%), followed by vaginal/non-descent hysterectomy (19.5%), total laparoscopic hysterectomy (16.5%), and laparoscopic-assisted vaginal hysterectomy (15%). The most frequent complications were wound site infection (3.5%), excessive bleeding (3%), bladder injury (1%), and ureter damage (0.5%) (Table 1).

Vaginal hysterectomy (UH/NVDH) had the shortest procedure duration at 90 mins, followed by total abdominal hysterectomy (TAH), and laparoscopic-assisted vaginal hysterectomy (LAVH) at 110 to 115 min. Total laparoscopic hysterectomy (TLH) had the longest procedure duration of 130 min. The hospital stay was shortest for VH/NDVH, LAVH, and TLH at 3 days, whereas TAH had the longest stay at 5 days.

There were no reported anaesthetic complications or bowel injuries across all procedures. Bladder injury occurred in two cases of TAH. Ureter damage occurred in one case of TLH. Wound site infections were most common in TAH (6 cases), followed by LAVH (1 case). Excessive bleeding was reported in 2 cases of VH/NDVH, 3 cases of TAH, and 1 case of LAVH, but not in TLH (Table 2).

Table 2: Duration of procedure, duration of hospital stays, and complications.

Variables	Procedure			
	VH/ NDVH	TAH	LAVH	TLH
Average duration of procedure (min)	90	110	115	130
Duration of stay (days)	3	5	3	3
AESD				
Bowel injury	0	0	0	0
Bladder injury	0	2	0	0
Ureter damage	0	0	0	1
Wound site infection	0	6	1	0
Excessive bleeding	2	3	1	0

DISCUSSION

Hysterectomy, a frequent surgical intervention in women during the peri-and post-menopausal stages, is typically performed to alleviate symptoms, such as abnormal uterine bleeding and pelvic pain. Moreover, it serves as a definitive treatment for gynaecological conditions such as fibroids, endometriosis, adenomyosis, and uterovaginal prolapse.⁸ Charles Clay conducted the inaugural subtotal hysterectomy in 1843, while the premiere total hysterectomy took place in England in 1929. Approximately 6% of surgeries performed in India are hysterectomies.⁹

In our study, of the 200 patients, the majority (60%) were aged between 40-50 years, and 25% were over 50 years. In terms of parity, most patients (55%) had two previous deliveries and 30% had more than two deliveries. The most common indications for hysterectomy were abnormal uterine bleeding AUB-L (44.5%), AUB-A (18%) and AUB-P (13.5%). Approximately 28% of the patients had a previous caesarean section, while 7% had a prior laparotomy. Shergill et al conducted a study that concluded that the most common clinical indications were uterine fibroid (34%), dysfunctional uterine bleeding (26%) and uterine prolapse (24%).¹⁰ Goldstein and Lumsden conducted a study and concluded that leiomyoma, DUB and adenomyosis are the common cause of AUB.¹¹

In our study, the most common surgical approach was total abdominal hysterectomy (49%), followed by vaginal/non-descent hysterectomy (19.5%), total laparoscopic hysterectomy (16.5%), and laparoscopic-assisted vaginal hysterectomy (15%). The most frequent complications were wound site infection (3.5%), excessive bleeding (3%), bladder injury (1%), and ureter damage (0.5%). Clarke-Pearson and Geller conducted a study and concluded that infectious complications after hysterectomy are most common, ranging from 10.5% for abdominal hysterectomy to 13% for vaginal hysterectomy and 9% for laparoscopic hysterectomy. Venous thromboembolism is less common, ranging from a clinical diagnosis rate of 1% to events detected by more sensitive laboratory methods of up to 12%.¹²

In our study, vaginal hysterectomy (VH/NDVH) had the shortest procedure duration at 90 min, followed by total abdominal hysterectomy (TAH) and laparoscopic-assisted vaginal hysterectomy (LAVH) at 110 min to 115 min. Total laparoscopic hysterectomy (TLH) had the longest procedure duration of 130 mins. The hospital stay was shortest for VH/NDVH, LAVH, and TLH at 3 days, whereas TAH had the longest stay at 5 days. Muller et al conducted a study and concluded that laparoscopic techniques resulted in the least blood loss. Operating time, on the other hand, was the shortest for VH and the longest for LAVH. The operating time for TAH may be detrimentally affected by the highest rate of simultaneous bilateral adnexectomy, the increased difficulty of surgery with a very large uterus, and the greater time required to close the layers of the abdominal wall.¹³

In our study, the hospital stay was the shortest for VH/NDVH, LAVH, and TLH at 3 days, whereas TAH had the longest stay at 5 days. There were no reported anaesthetic complications or bowel injuries across all procedures. Bladder injury occurred in two cases of TAH. Ureter damage occurred in one cases of TLH. Wound site infections were most common in TAH (6 cases), followed by LAVH (1 case). Excessive bleeding was reported in 2 cases of VH/NDVH, 3 cases of TAH, and 1 case of LAVH, but not in TLH. David-Montefiore et al concluded that the most striking findings had the high frequency of vaginal

hysterectomy (48.3% of cases) and the low frequency of laparotomic hysterectomy (24.4%).¹⁴

CONCLUSION

In conclusion, this study sheds light on the diverse routes of hysterectomies and their outcomes in patients with benign gynaecological conditions. These findings underscore the significance of surgical approaches tailored to each patient's condition, considering factors such as uterine size, vaginal access, and surgeon expertise. Notably, vaginal hysterectomy has emerged as a favourable option for uterine prolapse cases, whereas laparoscopic techniques exhibit advantages such as reduced blood loss, lesser hospital stay and less morbidities. Although relatively infrequent, complications were observed across different procedures, highlighting the importance of vigilant postoperative care. These insights contribute to optimising patient care and surgical decision-making in managing benign gynaecological conditions that necessitate hysterectomy. Further research and ongoing evaluation of surgical outcomes are warranted to refine treatment approaches and enhance patient outcomes in this context.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Arumugam K, Rajakumar SA, Kumar J. A study of different routes of hysterectomies and its outcome in benign gynaecological conditions in tertiary care centre in Tamil Nadu. Int J Reprod Contracept Obstet Gynecol 2024;13:2056-9.