

**RETROSPECTIVE STUDY ON ASSESSMENT OF FACTORS ASSOCIATED WITH
HYSTERECTOMIZED PATIENTS**

JILU DANIEL VARUGHESE, SANKARA A S K*

Department of Pharmacy Practice, School of Pharmaceutical Sciences, Vels University (VISTAS), Pallavaram, Chennai, Tamil Nadu, India.
Email: asksankar1@gmail.com

Received: 4 May 2016, Revised and Accepted: 11 May 2016

ABSTRACT

Objective: The study was carried out to determine the age pattern, indications, risk factors, co-morbid conditions, type of surgery, and the associated complications of hysterectomized patients.

Methods: A cross-sectional, retrospective study was done over a period of 8-month. A total of 150 hysterectomies were documented.

Results: All data collected were analyzed and in this 111 hysterectomies (74%) were done by vaginal route and 39 (26%) done abdominally. In which, 50.60% hysterectomized patients were in the age group 40-50 years and 32% patients were in 50-60 years. Out 111 vaginal hysterectomy (VH), 79 are laparoscopic-assisted VH. Fibroid (33.33%) and dysfunctional uterine bleeding (DUB) (17%) were the most common indication. Complications were injuries to the bladder in 5 patients, 4 wound sepsis, 2 chronic cervicitis, 1 menopausal symptoms, 1 thrombocytosis, bilateral mild hydronephrosis 1, and right ovarian cyst in 1 patient. This study also recorded the common co-morbid medical conditions in women undergoing hysterectomies include diabetes mellitus, 30.66%; hypertension, 23.33%; hypothyroid, 19.33%; dyslipidemia, 12%.

Conclusion: The present study shows that the most common method performed is VH. Fibroid and DUB are very common indications for undergoing hysterectomy; of these, most of the hysterectomized patients were in the age group of 40-50 years. Laparoscopic hysterectomy may be an alternative to abdominal hysterectomy for those patients in whom a VH is not indicated. All women should be carefully evaluated before surgery, and its route is decided.

Keywords: Hysterectomy, Fibroid, Dysfunctional uterine bleeding, Complications.

INTRODUCTION

Hysterectomy is surgery to remove the uterus. It is a very common type of surgery for women [1]. The highest rate of hysterectomy is between the ages of 40 and 49 years with an average age of 46.1 years. The uterus can be removed using varied approaches including abdominal, vaginal, or laparoscopic [2]. Hysterectomy is a major surgical procedure that brings in significant physiological and psychological complications [3].

Hysterectomy is used to treat many women's health conditions. Some of these conditions include uterine fibroids, endometriosis, pelvic support problems (such as uterine prolapse), abnormal uterine bleeding, chronic pelvic pain, adenomyosis, and gynecologic cancer [4]. Menorrhagia is the most frequent cause for hysterectomy in pre-menopausal women, with myomas and adenomyosis constituting the leading pathologies of the uterus. There is a 20-25% incidence of uterine fibroid tumor in women of fertile age [5].

Hysterectomy appears to be cost-effective when compared with alternative conservative therapies (endometrial resection and ablation and medical therapy for menorrhagia) in long-term follow-up studies [6].

A significantly faster return to normal activities and other improved secondary outcomes (shorter duration of hospital stay and fewer unspecified infections or febrile episodes) endorse vaginal hysterectomy (VH) as a preferable option to abdominal hysterectomy (AH), whenever possible [7]. There are no specific criteria that can be used to determine the route of hysterectomy. The route chosen should be based on the individual patient [2]. Parity, uterine size, vaginal anatomy, pelvic mobility and any pelvic disease or previous pelvic surgery are the most important factors influencing the choice of hysterectomy route [4].

Oophorectomy at the time of hysterectomy is associated with an increase in patient mortality, and it is currently recommended that ovarian conservation is considered until at least age 65 years. The risk for one or more complications after AH was 1.7 times the risk after VH. Laparoscopy is associated with a much lower risk of infection than open abdominal or vaginal surgery. Prophylactic antibiotics should be offered to selected patients (e.g., those with enhanced risk of bacterial endocarditis and those for whom hysterectomy is planned). Patients should be instructed to monitor their body temperature after discharge and to report immediately a temperature higher than 38°C [2].

The present study is mostly focused to determine the age group, indications, characteristics, and route of surgery and the associated complications of patients undergoing hysterectomy.

METHODS

A cross-sectional, retrospective study was done in the Department of Obstetrics and Gynecology at Fortis Malar Hospital, Chennai, India. The study was conducted over a period of 8-month. A total of 150 patients' data were collected regarding patients age, sex, height, weight, reason for admission, past medical history, past medical history, social history, characteristics, pre-operative physical examination, indication for surgery, route of hysterectomy, intraoperative findings, and outcomes in the immediate post-operative hospitalization period.

Data collection

Medical records of the patients from the medical files and database were analyzed to evaluate the study.

Data analysis

The obtained data are analyzed and evaluated using Microsoft Excel.

RESULTS

(Table 1). and (Fig. 1). A total of 150 hysterectomized patients' data were analyzed. In this, 111 (74%) hysterectomies were done by vaginal route and 39 (26%) done abdominally. Out 111 VH, 79 are laparoscopic-assisted VH.

Out of 150 cases of hysterectomy, the most common indications were fibroid (33.33%) and dysfunctional uterine bleeding (DUB) (17%). (Table 2). and (Fig. 2). Other indications include ultraviolet prolapse (12%); post-menopausal bleeding (12%); adenomyoma uterus (6%); ovarian cyst (4.66%); adenomyosis (4%); cervical dysplasia (2.6%); Pyometra (2%) and endo polyp (1.3%); endometriosis (1.3%); calcium body of uterus (1.3%), and chronic cervicitis (1.3%).

(Table 3). and (Fig. 3). Most of the hysterectomized patients (50.60%) were in the age group 40-50 years and 32% of 50-60 years were the next age group to undergo hysterectomy. Followed by 8% patients of age >60 years; 7.33% of patients in 30-40 years, and only 2% patient undergone hysterectomy in 20-30 years age group.

(Table 4). and (Fig. 4) Complications were few. Those were injuries to the bladder in 5 patients, wound sepsis in 4, chronic cervicitis in 2, menopausal symptoms in 1, thrombocytosis in 1, bilateral mild hydronephrosis in 1, and right ovarian cyst in 1 patient.

(Table 5). and (Fig. 5) In a sample of 150 patients, recorded co-morbid medical conditions include: Diabetes mellitus, 30.66%; hypertension, 23.33%; hypothyroid, 19.33%; dyslipidemia, 12%; bronchial asthma, 3.33%; 1.3% of patients had migraine, acid peptic disease, varicose

vein, depression, and 0.66% patients presented with coronary artery disease, cervical spondylosis, left ovarian cysts.

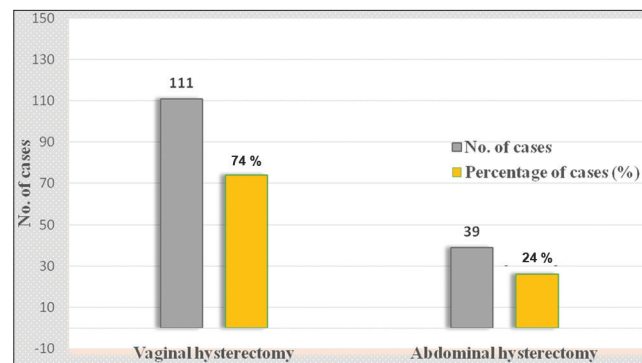


Fig. 1: Types of hysterectomy

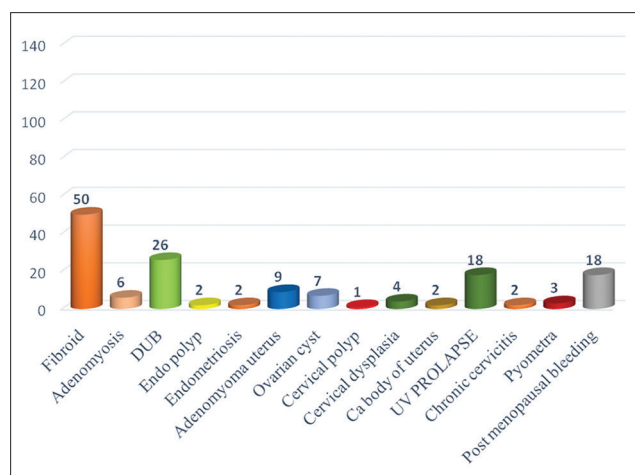


Fig. 2: Patients indications for hysterectomy

Table 1: Types of hysterectomy

S. N	Types of hysterectomy	Number of cases (n=150) (%)
1	Vaginal hysterectomy	111 (74)
2	Abdominal hysterectomy	39 (26)
	Total	150 (100)

Table 2: Patients indications for hysterectomy

S. N	Indication	Total number of cases (n=150) (%)
1	Fibroid	50 (33.33)
2	Adenomyosis	6 (4)
3	Dysfunctional uterine bleeding	26 (17)
4	Endo polyp	2 (1.3)
5	Endometriosis	2 (1.3)
6	Adenomyoma uterus	9 (6)
7	Ovarian cyst	7 (4.66)
8	Cervical polyp	1 (0.6)
9	Cervical dysplasia	4 (2.6)
10	Ca body of uterus	2 (1.3)
11	UV prolapse	18 (12)
12	Chronic cervicitis	2 (1.3)
13	Pyometra	3 (2)
14.	Post-menopausal bleeding	18 (12)
15	Total	150 (100)

DUB: Dysfunctional uterine bleeding

Table 3: Distribution according to age

S. N	Age group	Number of cases (n=150)
1	20-30	3 (2.00)
2	30-40	11 (7.33)
3	40-50	76 (50.60)
4	50-60	48 (32)
5	>60	12 (8)
6	Total	150 (100)

Table 4: Complications in women undergone hysterectomy

S. N	Complications	Number of cases (n=150)
1	Menopausal symptoms	1
2	Injury to the bladder	4
3	Wound sepsis	5
4	Chronic cervicitis	2
5	Thrombocytosis	1
6	Bilateral mild hydronephrosis	1
7	Right ovarian cyst	1

Table 5: Co-morbidities

S. N	Co-morbidities	Number of patients (n=150) (%)
1	Diabetes mellitus	46 (30.66)
2	Hypertension	35 (23.33)
3	Bronchial asthma	5 (3.33)
4	Dyslipidemia	18 (12)
5	Depression	2 (1.3)
6	Hypothyroidism	29 (19.33)
7	Acid peptic disease	2 (1.3)
8	Choleithiasis	1 (0.66)
9	Migraine	2 (1.3)
10	Varicose vein	2 (1.3)
11	Coronary artery disease	1 (0.66)
12	Cervical spondylosis	1 (0.66)
13	Left ovarian cyst	1 (0.66)

DISCUSSION

Drosey *et al.* [8] compared the indications, characteristics, surgical management, and outcomes of patients undergoing total abdominal hysterectomy (TAH), total vaginal hysterectomy (TVH), and laparoscopically-assisted vaginal hysterectomy (LAVH) and concluded that clinical outcomes were similar regardless of type of hysterectomy performed and also the practice style and personal preference of the surgeon thus may be playing a significant role in selection of hysterectomy type.

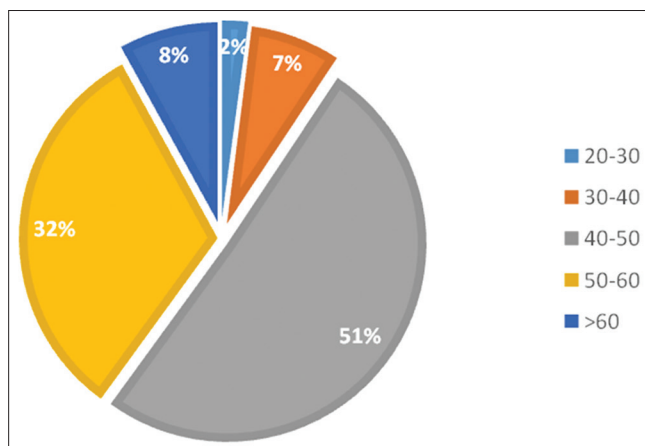


Fig. 3: Distribution according to age

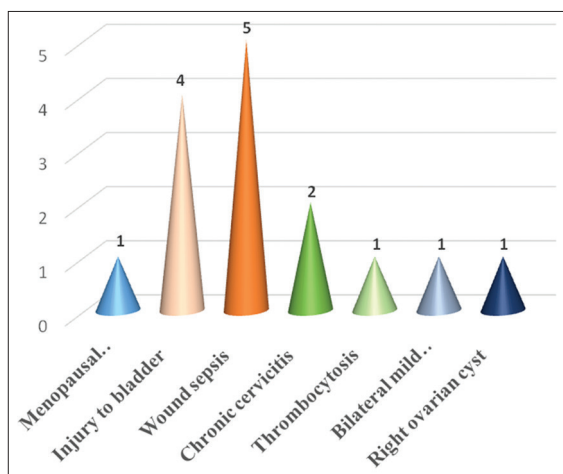


Fig. 4: Complications in women undergone hysterectomy

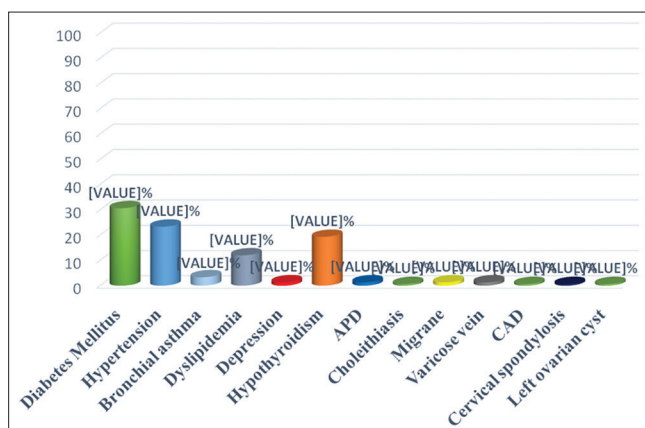


Fig. 5: Co-morbidities

The only formal guideline available is the uterine-size guideline by American Congress of Obstetricians and Gynecologists, 2009, which suggests that VH is most appropriate in women with mobile uteri no larger than 12 weeks' gestational size (approximately 280 g) which also acknowledges that the choice of approach is based on the surgical indication, the patient's anatomic condition, data supporting the approach, informed patient preference, and the surgeon's expertise and training. Laparoscopic hysterectomy is an alternative to AH for those patients in whom a VH is not indicated or feasible [9].

McPherson *et al.* [10] studied serious operative and post-operative complications of hysterectomy and their potential risk factors, which concluded that hysterectomy is a common, routine surgery with comparatively rare serious complications. Younger women with more vascular pelvises, who undergo hysterectomy, especially laparoscopically-assisted vaginal surgery for symptomatic fibroids, are at most risk of experiencing severe complications both operatively and postoperatively. Therefore, a less invasive alternative treatment for symptomatic fibroids could particularly benefit this group of women, whereas less invasive treatments for DUB, such as various methods of endometrial ablations or resections, would need to meet the current low levels of clinical complications to replace hysterectomy.

Leiserowitz *et al.* [11] compared the demographics, cancer characteristics, and hospital outcomes of endometrial cancer patients undergoing an LAVH versus a TAH and concluded that surgeons have to carefully select endometrial cancer patients for laparoscopic surgery. Although surgical staging was performed in <50% of endometrial cancer patients, the rate was not worse in laparoscopic procedures. Short-term hospital complications were less common in the laparoscopy group. Perioperative complications such as vascular and bowel injuries, pulmonary embolism, wound problems, and transfusions were significantly more common in TAH patients.

Mittendorf *et al.* [12] meta-analysis had shown that the drug cefazolin, metronidazole, and Tinidazole are effective in the prevention of infectious morbidity associated with gynecological surgeries.

Society of Obstetricians and Gynecologists of Canada clinical practice guidelines. All women undergoing an abdominal or VH should receive antibiotic prophylaxis. All women undergoing laparoscopic hysterectomy or LAVH should receive prophylactic antibiotics. The choice of antibiotic for hysterectomy should be a single dose of a first-generation cephalosporin. If patients are allergic to cephalosporin, then clindamycin, erythromycin, or metronidazole should be used. Prophylactic antibiotics should be administered 15-60 minutes before skin incision. No additional doses are recommended. If an open abdominal procedure is lengthy (e.g. >3 hrs) or if the estimated blood loss is >1500 ml, an additional dose of the prophylactic antibiotic may be given 3-4 hrs after the initial dose. Antibiotic prophylaxis is not recommended for laparoscopic procedures that involve no direct access from the abdominal cavity to the uterine cavity or vagina [13].

VH should be the first choice for many reasons, the most important of which are lower complication rate, better cost-effectiveness, and improved quality of life. The aim of any hysterectomy guideline is to avoid a laparotomy whenever possible [4].

CONCLUSION

This study shows that hysterectomy is a routine surgery, in which the most common method performed in this study is VH. Laparoscopic hysterectomy may be an alternative to AH for those patients in whom a VH is not indicated. All women should be carefully evaluated before surgery, and its route is decided.

In this study, fibroid and DUB are very common indications for undergoing hysterectomy; of these, most of the hysterectomized patients were in the age group of 40-50 years. This study shows that the most common complications seen in patient are injury to the bladder

and wound sepsis. Women with co-morbid medical conditions such as diabetes mellitus, hypertension, hypothyroid, and dyslipidemia may have a higher risk of undergoing hysterectomy. The average patients undergoing hysterectomy for particular indications, their co-morbid conditions may have an impact on their presentation, procedure tolerance, and post-operative outcome.

REFERENCES

1. The American Congress of Obstetricians and Gynecologists, (ACOG) FAQ008, March; 2015. Available from: <http://www.acog.org/Patients/FAQs/Hysterectomy>.
2. Berek SB, editor. Berek & Novak's Gynecology. 14th ed., Vol. 787. Philadelphia, PA: Lippincott Williams & Wilkins; 2007. p. 805-12.
3. Rock JA, Jones HW. In: Tavmergen E, editor. The Linde's Operative Gynecology. 9th ed. Izmir: Izmir, Guven Kitabevi; 2005. p. 731-55.
4. Domingo S, Pellicer A. Overview of current trends in hysterectomy. *Exp Rev Obstet Gynecol* 2009;4(6):673-85.
5. Cramer SF, Patel A. The frequency of uterine leiomyomas. *Am J Clin Pathol* 1990;94(4):435-8.
6. You JH, Sahota DS, MoYuen P. A cost-utility analysis of hysterectomy, endometrial resection and ablation and medical therapy for menorrhagia. *Hum Reprod* 2006;21(7):1878-83.
7. Johnson N, Barlow D, Lethaby A, Tavender E, Curr L, Garry R. Methods of hysterectomy: systematic review and meta-analysis of randomised controlled trials. *BMJ* 2005;330(7506):1478.
8. Dorsey JH, Steinberg EP, Holtz PM. Clinical indications for hysterectomy route: patient characteristics or physician preference? *Am J Obstet Gynecol* 1995;173(5):1452-60.
9. ACOG Committee Opinion No. choosing the route of hysterectomy for benign disease. *Obstet Gynecol* 2009;114(5):1156-8.
10. McPherson K, Metcalf MA, Herbert A, Maresh M, Casbard A, Hargreaves J, *et al*. Severe complications of hysterectomy: the VALUE Study *BJOG* 2004;111(7):688-94.
11. Leiserowitz GS, Xing G, Parikh-Patel A, Cress R, Abidi A, Rodriguez AO, *et al*. Laparoscopic versus abdominal hysterectomy for endometrial cancer: comparison of patient outcomes. *Int J Gynecol Cancer* 2009;19(8):1370-6.
12. Mittendorf R, Aronson MP, Berry RE, Williams MA, Kupelnick B, Klickstein A, *et al*. Avoiding serious infections associated with abdominal hysterectomy: a meta-analysis of antibiotic prophylaxis. *Am J Obstet Gynecol* 1993;169(5):1119-24.
13. Antibiotic Prophylaxis in Gynecologic Procedures, SOGC (Society of obstetricians and Gynecologists of Canada) Clinical Practice Guideline No. 275, April; 2012. Available from: <http://www.sogc.org/wp-content/uploads/2012/09/gui275CPG1204E>.