Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2017; 5(11E):4666-4671 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI:10.36347/sjams.2017.v05i11.070

Trends of Hysterectomy in Tertiary Care Teaching Hospital Batticaloa

Thirukumar M
Senior Lecturer in Obstetrics and Gynaecology, Department of Clinical Science, Faculty of Health Care Science, Eastern University, Sri Lanka

Original Research Article

***Corresponding author**
Thirukumar M

Article History
Received: 23.11.2017
Accepted: 28.11.2017
Published: 30.11.2017

Abstract: The aim of this study is to analyze indications and types of hysterectomies done in teaching hospital, Batticaloa. It was a retrospective study in which the detailed analysis of demographic data of the patients, surgical indications and route of surgery of the patients undergoing hysterectomy in five year (June 2012 -June 2017) in teaching hospital, Batticaloa .Out of the total 1090 cases of hysterectomy performed in teaching hospital Batticaloa, the incidence of abdominal hysterectomy was significantly higher (73% vs.27%, $p<0.05$) than the vaginal hysterectomy. Fibroid uterus was the most common indication for hysterectomy in the study group and Pelvic organ prolapse was the second most common cause for hysterectomy. Adenomyosis, ovarian mass, dysfunctional uterine bleeding, uterine lesions other than fibroid, chronic pelvic pain and cervical intraepithelial neoplasia were the other indications. Considerable number of hysterectomies was performed for obstetric causes mostly for post-partum haemorrhage (29, 2.7%). Abdominal hysterectomy was the commonest (73%) surgery performed. 27% of hysterectomies were performed by the vaginal route. The most common indication for the hysterectomy was uterine fibroid. Although hysterectomy is a definite solution for symptomatic fibroids, alternative treatment for fibroids and uterine bleeding should be considered. In future, Ulipristal acetate can contribute to reduce hysterectomy. Non-descent vaginal hysterectomy (NDVH) is a feasible option for benign gynaecological conditions with a uterus less than 14 weeks in size. Hysterectomy for benign condition can be better managed with levonorgestrel releasing system (LNG-IUS) and endometrial ablation (EA). If steps are taken to make wider availability, rate of hysterectomy can be reduced further. Considerable numbers of hysterectomies were also performed for mostly for post-partum hemorrhage .Conservative management strategies can be encouraged initially to its rate. In pelvic organ prolapse, uterus sparing surgery in the form of mesh repair can reduce hysterectomy for pelvic organ prolapse .The cost of the mesh limits its usage in our low resource setting. This study shows that 36.1% of women who underwent abdominal hysterectomy also underwent concurrent BSO. Even though the principal motivation for the BSO is to reduce subsequent ovarian malignancy, the benefit must be balanced against the effects of premature withdrawal of ovarian hormones. The underutilized minimal invasive techniques must be made more available in our setting.
Keywords: Hysterectomy, Vaginal hysterectomy, Pelvic organ prolapse.

INTRODUCTION

Hysterectomy is the most common gynecological surgery in women [1]. Approximately 494,000 hysterectomies are performed annually in the United States [2]. Over the last three decades, technological advances in surgical equipment and training have allowed for minimally invasive approaches to hysterectomy. The first case of laparoscopic assisted hysterectomy was published by Reich and colleagues in 1989 [3]. Minimal invasive techniques for benign gynecological diseases are responsible for fall in the trends for hysterectomy in the developed world [4].

Focus in these countries have shifted to lesser invasive techniques such as endometrial ablation, thermal balloon therapy, uterine artery embolization, or hormone releasing intrauterine system, laparoscopic hysterectomy, or robotic surgery [5]. In developing countries, the incidence of hysterectomy is still high compared to minimally invasive techniques. The major causative factors are restricted availability,

technical insufficiency, late presentation of the patient at the health care facility and high cost [6]. Hysterectomy is thus resorted to for a wide range of gynecological diseases in developing countries.

A study conducted in Haryana, India states that incidence of hysterectomy was 7% among married women [7]. Another study from a western state of India (Gujarat) reported that 7-8% of rural women and 5% of urban women had already undergone hysterectomy at an average age of 37 years [8]. All these data indicate that the hysterectomy, abdominal or vaginal, still remains the widely accepted treatment of choice for the majority of gynecological diseases in developing countries.

This present study is done to analyze the trend of hysterectomy over the past 5 year in teaching hospital Batticaloa, Sri Lanka.

MATERIAL AND METHODS

This was a retrospective study performed in the departments of obstetrics and gynecology from June 2012 to June 2017 in teaching hospital, Batticaloa. The study group included the women who underwent hysterectomy (Total abdominal hysterectomy with or without bilateral salpingoophrectomy, with unilateral salpingoophrectomy, vaginal hysterectomy) for any indication. Obstetric and emergency hysterectomies also included to the study. Demographic data, clinical findings and surgical records, including indications for surgery and type of procedure were recorded. Statistical analysis was done using SPSS software.

RESULTS

A total of 1090 hysterectomies were done in the teaching hospital, Batticaloa over 5 years .The age distribution analysis of the patients in the study group showed that the significant number of patients undergoing hysterectomy were in the age group of 40-60 years with the mean of 49.9. The incidence of hysterectomy was higher in the advanced age group (>51 years) was higher compared to those in younger age group (Fig. 1).

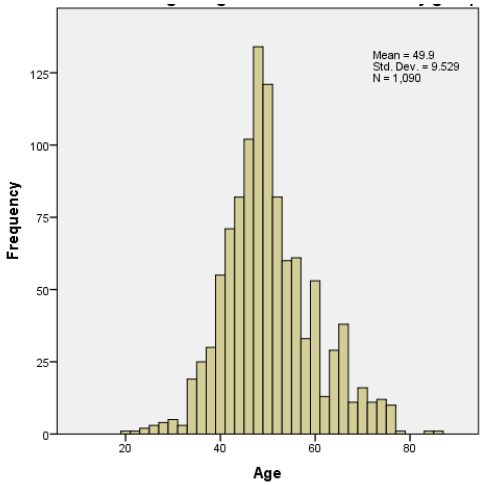

Fig-1: Age distribution in the study group

Abdominal hysterectomy was the most common type of hysterectomy done in the study group. The various types of abdominal hysterectomy included total abdominal hysterectomy (n=295, 27.1%), total abdominal hysterectomy with unilateral salpingoophrectomy (n= 107, 9.8%), total abdominal hysterectomy with bilateral salpingoophrectomy (n= 394, 36.1%). Laparoscopic assisted hysterectomy was performed in only one woman in this population. Vaginal hysterectomy was performed in 294(27%) women in the study group (Table 1).

Table-1: Types of hysterectomy done

Type of hysterectomy	Frequency	Percentage
TAH+BSO	394	36.1
TAH	295	27.1
VH & R	294	27.0
TAH+USO	107	9.8
Total	1090	100.0

TAH = Total abdominal hysterectomy, SO= Salpingo-ophrectomy, BSO = Bilateral Salpingo-oophrectomy, USO=unilateral Salpingo-oophrectomy, VH &R = Vaginal hysterectomy with pelvic floor Repair.

The most common indication for hysterectomy in this study group was Fibroid uterus (n=369, 33.9%). It was the most common indication for the abdominal hysterectomy (n= 369/796, 46.35%). Pelvic organ prolapse was the second most common indication for hysterectomy (n= 327, 30%). Adenomyosis (n=114,10.5%), ovarian mass(n=87,8%), dysfunctional uterine bleeding (n=75,6.9%), uterine lesions other than fibroid(n=43,3.9%), cervical intraepithelial neoplasia (n=30,2.8%)and chronic pelvic pain(n=16,1.5%) were the other indications. Considerable amount of hysterectomies were performed for obstetric causes mostly for post-partum hemorrhage (n=29, 2.7%). (Fig. 2)

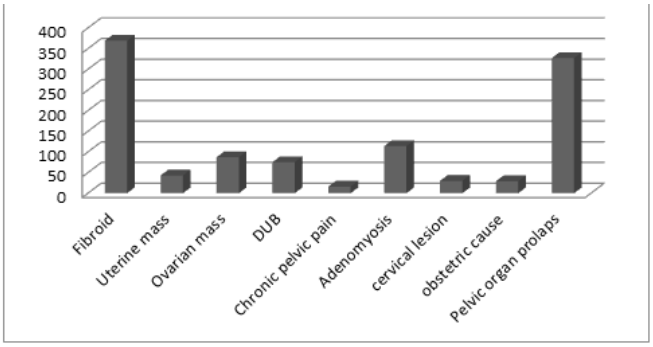

Fig-2: Indications for hysterectomy

DISCUSSION

In teaching hospital Batticaloa, a total number of 1090 hysterectomies were performed over a span of five years. The present study shows that most common age group of hysterectomy was 40-60 years with the mean age of 49.9 years which is similar to other studies[9,10].

Abdominal hysterectomy was the commonest (73%) surgery performed. 27% of hysterectomies were performed by the vaginal route. This was in similar to the various studies done earlier in which the incidence of abdominal hysterectomy was significantly more than the vaginal hysterectomy. However, a study by Sharma C *et al* in rural Indian population showed vaginal hysterectomy to be the most common type of hysterectomy performed in the Population studied[5].Vaginal hysterectomy is associated with lower complications, decreased operative time, reduced post-operative pain, and shorter hospital stay [11]. Vaginal hysterectomy can be done in the setting of nulliparity, enlarged uterus, obesity and previous cesarean delivery. Therefore surgeons need to reexamine previously held beliefs regarding relative contraindications to the approach in order to increase the vaginal route than abdominal route.

The most common indication for the hysterectomy in this study was found to be uterine fibroid (n=369, 33.9%). This was in concordance with the other studies done worldwide in which the fibroid uterus was found to be the most common indication for hysterectomy [12-14].

Although hysterectomy is a definite solution for symptomatic fibroids, many women would prefer to preserve uterus for many reasons [15]. Therefore hysterectomy for symptomatic fibroids can be reduced by increasing the alternative treatment for fibroids and uterine bleeding [16]. Wider usage of uterine conserving treatment modalities for fibroid uterus such as uterine artery embolization, hysteroscopy myomectomy, Levonorgestrel intrauterine system and endometrial ablation (when the heavy menstrual bleeding is predominant symptom) can reduce the hysterectomy rate. Researches show promising results for Ulipristal acetate to control heavy menstrual bleeding, decreases pain and reduces fibroid size compared with placebo [17].In future it can contribute to reduce the rate of hysterectomy.

Hiran Chaminda SH *et al.* also published on his study that the outcome and complication rates of non-descent vaginal hysterectomy were comparable with evidence from literature and recommended non-descent vaginal hysterectomy (NDVH), isafeasible option for benign gynaecological conditions with a uterus less than 14 weeks in size in the current gynaecological practice of Sri Lanka [18]. An Indian study done in rural settings showed different result with pelvic organ prolapse (31%) most common indication for hysterectomy[5].

This study shows that hysterectomy was done for adenomyosis for 10.5% of the subjects (n=114) and 6.9% for dysfunctional uterine bleeding (n=75). Abnormal uterine bleeding is a common complains and it affects 10-15% of the women in their reproductive period. It affects health related quality of life including sexual, emotional, financial and professional life. Hysterectomy gives definite cure when medical treatment fails but it is associated with significant risks such as bleeding, infection, thrombo-embolic events, and injury to bladder, bowel and ureters. Therefore uterine preserving options such as levonorgestrel

releasing system (LNG-IUS) and endometrial ablation (EA) provide less invasive alternatives to hysterectomy. Unfortunatly availability of these options in government hospital is very much restricted. It could be reasons for its underutilization. If steps are taken to make wider availability, rate of hysterectomy can be reduced further.

Considerable number of hysterectomies were also performed for obstetric causes mostly for post-partum hemorrhage (n=29, 2.7%). During the study period of five years there were 33996 deliveries in this institution. Therefore overall rate of peripartum hysterectomy was 85.30 per 100,000 deliveries. This figure is similar to other bigger studies. For instance, Bateman and colleagues performed a national cross study in United States looking at more than 56 million deliveries from 1994 to 2007 and reported overall rate was 71.6 to 82.6 per 100,000 deliveries [19].Adverse events related to peripartum hysterectomy are substantial [20].PPH due to uterine atony is the leading cause of periparum hysterectomy, although there is a now an increased incidence of abnormally invasive placenta accrete, placenta increta and placenta percreta.

Conservative or uterine preserving management refers to the management of peripartum complications by any method that avoids hysterectomy, which is intended to reduce the risk of complications [21].When the uterine atony, commonest cause of PPH, is best managed romptly, periparum hysterectomy can be reduced. The strategies can be uterotonics, balloon tamponade, compression sutures, uterine vessel ligation, internal artery ligation, recombinant factor vii and embolization by interventional radiologist [22].

Moreover, pelvic organ prolapse is second most common indication for hysterectomy in our setting(vaginal hysterectomy with pelvic floor repair).Incidence of pelvic organ prolapse can be reduced by promoting good quality intrapartum and post-partum care and effective contraception to avoid too many and too frequent child births. However, vaginal prolapse cannot be prevented in every case. Even though uterus sparing surgery in the form of mesh repair can reduce hysterectomy for pelvic organ prolapse; the cost of the mesh limits its usage in our low resource setting.

This study shows that36.1% of women who underwent abdominal hysterectomy also underwent concurrent bilateral salpingo-oophorectomy [BSO].The age, route of hysterectomy and associated gynecologic conditions can influence oophorectomy rate. Removal of ovary in a young age leads to premature menopause and associated complications. But screening for cases at high risk for ovarian carcinoma by mutational analysis (BRCA 1 and 2) and regular post-operative follow up are not feasible in our low resource settings, hence BSO could have been done as per the age.

Even though the principal motivation for the BSO is to reduce subsequent ovarian diseases, the benefit must be balanced against the effects of premature withdrawal of ovarian hormones includes cardiovascular diseases, hip fracture, sexual function, and overall mortality [23]. In United States, the rate of oophorectomy was 49.1% in 2001 and 33.4% in 2011 [24].For premenopausal women with no evidence for a hereditary ovarian or breast cancer syndrome, elective BSO should be discouraged based on an increased risk of cardiovascular disease and sexual dysfunction[22].

Though various lesser invasive and modern methods are present to treat the benign gynecological disorders, still the hysterectomy is the preferred method in our settings. Technical causes like lack of equipment's and trained personnel arethe major cause of this trend in developing countries. However, other major contributing factors which play significant role in resorting to hysterectomy rather than conservative management are unawareness of patients and their families, poor financial status, late presentation to the hospital, unwillingness for repeated hospital visits and seeking permanent solution.

CONCLUSION

Abdominal hysterectomy was the commonest (73%) surgery performed. 27% of hysterectomies were performed by the vaginal route. Vaginal hysterectomy has many benefits. Therefore surgeons need to reexamine previously held beliefs regarding relative contraindications to the approach in order to increase the vaginal route than abdominal route.

The most common indication for the hysterectomy in this study was found to be uterine fibroid. Although hysterectomy is a definite solution for symptomatic fibroids, alternative treatment for fibroids and uterine bleeding should be considered. In future, Ulipristal acetate can contribute to reduce hysterectomy. Non-descent vaginal hysterectomy (NDVH), is a feasible option for benign gynecological conditions with a uterus less than 14 weeks in size.

Hysterectomy for adenomyosis and dysfunctional uterine bleeding can be better managed with levonorgestrel releasing system (LNG-IUS) and endometrial ablation (EA). If steps are taken to make wider availability, rate of hysterectomy can be reduced further.

Considerable number of hysterectomies was also performed for obstetric causes mostly for post-partum hemorrhage. Conservative management

strategies can be encouraged initially such as uterotonics, balloon tamponade, compression sutures, uterine vessel ligation, internal artery ligation, recombinant factor vii and embolization by interventional radiologist.

In pelvic organ prolapse, uterus sparing surgery in the form of mesh repair can reduce hysterectomy for pelvic organ prolapse .The cost of the mesh limits its usage in our low resource setting.

Removal of ovary in a young age leads to premature menopause and associated complications. Even though the principal motivation for the BSO is to reduce subsequent ovarian malignancy, the benefit must be balanced against the effects of premature withdrawal of ovarian hormones. For premenopausal women with no evidence for a hereditary ovarian or breast cancer syndrome, elective BSO should be discouraged. The underutilized minimal invasive techniques must be made more available in our setting.

Conflict of interest

There is no conflict of interest.

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to Dr. Ibralebbe, Director, Teaching Hospital, Batticaloa for providing me opportunity to do this research in Teaching Hospital, Batticaloa.

I sincerely thank Dr. AE Karunakaran, Dr. Saravanan, Dr. M Siraj, DrKanchana consultant's gynaecologists for their guidance in carrying out this research. I sincerely thank to my research assistant Dr. MZA. Zakky for his tiredless work.

I also wish to express my gratitude to the officials and other staff members of Teaching Hospital, Batticaloa who rendered their help during this research period.

REFERENCES

1. Pandey D, Sehgal K, Saxena A, Hebbar S, Nambiar J, Bhat RG. An audit of indications, complications, and justification of hysterectomies at a teaching hospital in India. International journal of reproductive medicine. 2014 Jan 2; 2014.
2. CDC web site. National Center for Health Statistics. Number of all-listed procedures for discharges from short-stay hospitals: United States, 2010.
3. Reich H, DeCaprio J, McGlynn F. Laparoscopic hysterectomy. J Gynecol Surg. 1989; 5:213
4. Whiteman MK, Hillis SD, Jamieson DJ, Morrow B, Podgornik MN, Brett KM, Marchbanks PA. Inpatient hysterectomy surveillance in the United States, 2000-2004. American journal of obstetrics and gynecology. 2008 Jan 31;198(1):34-e1.
5. Sharma C, Sharma M, Raina R, Soni A, Chander B, Verma S. Gynecological diseases in rural India: A critical appraisal of indications and route of surgery along with histopathology correlation of 922 women undergoing major gynecological surgery. Journal of mid-life health. 2014 Apr;5(2):55.
6. Bower JK, Schreiner PJ, Sternfeld B, Lewis CE. Black–White differences in hysterectomy prevalence: the CARDIA study. American journal of public health. 2009 Feb;99(2):300-7.
7. Singh A, Arora AK. Why hysterectomy rate are lower in India. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine. 2008 Jul;33(3):196.
8. Desai S, Sinha T, Mahal A. Prevalence of hysterectomy among rural and urban women with and without health insurance in Gujarat, India. Reproductive Health Matters. 2011 May 31;19(37):42-51.
9. Patel Arti J, Tank Ashish C. Changing trends of hysterectomy: An observational study. International Journal of Scientific Research. August 2013; 2(8): 323-4.
10. Pity IS, Jalal JA, Bashar AH. Hysterectomy: A Clinicopathologic Study. Tikrit Medical Journal. 2011 Dec 1;17(2):7-16.
11. BenassiL, RossiT, KaihuraCT. Abdominal or Vaginal hysterectomy for nlageduteri:a randomized clinical trial. Am J ObstetGynecol 2002;187(6):1561-5.
12. Gimbel H, Settnes A, Tabor A. Hysterectomy on benign indication in Denmark 1988–1998. Acta obstetricia et gynecologica Scandinavica. 2001 Mar 1;80(3):267-72.
13. Leung PL, Tsang SW, Yuen PM. Quality Assurance Subcommittee in Obstetrics and Gynaecology, Hospital Authority, Hong Kong. An audit on hysterectomy for benign diseases in public hospitals in Hong Kong. Hong Kong Med J. 2007 Jun;13(3):187-93.
14. Merrill RM, Layman AB, Oderda G, Asche C. Risk estimates of hysterectomy and selected conditions commonly treated with hysterectomy. Annals of epidemiology. 2008 Mar 31;18(3):253-60.
15. Borah BJ, Nicholson WK, Bradley L, Stewart EA. The impact of uterine leiomyomas: a national survey of affected women. American journal of obstetrics and gynecology. 2013 Oct 31;209(4):319-e1.
16. Wright JD, Herzog TJ, Tsui J, Ananth CV, Lewin SN, Lu YS, Neugut AI, Hershman DL. Nationwide trends in the performance of inpatient hysterectomy in the United States. Obstetrics and gynecology. 2013 Aug;122(2 0 1):233.

17. Donnez J, Tatarchuk TF, Bouchard P, Puscasiu L, Zakharenko NF, Ivanova T, Ugocsai G, Mara M, Jilla MP, Bestel E, Terrill P. Ulipristal acetate versus placebo for fibroid treatment before surgery. New England Journal of Medicine. 2012 Feb 2;366(5):409-20.
18. Chaminda SH, Ekanayake CD, Sriskanthan RS, Perera B, Palihawadana TS. Outcome of Non-Descent Vaginal Hysterectomy at a Single Centre in Sri Lanka: an Observational Study. Case series . Sri Lanka Journal of Obstetrics and gynaecology September 2015.
19. Bateman BT, Mhyre JM, Callaghan WM, Kuklina EV. Peripartum hysterectomy in the United States: nationwide 14 year experience. American journal of obstetrics and gynecology. 2012 Jan 31;206(1):63-e1.
20. Hack AK. Trauma in the Pregnant Patient. InAnesthesia for Trauma 2014 (pp. 335-367). Springer New York.
21. Shields LE, Wiesner S, Fulton J, Pelletreau B. Comprehensive maternal hemorrhage protocols reduce the use of blood products and improve patient safety. American journal of obstetrics and gynecology. 2015 Mar 31;212(3):272-80.
22. Hysterectomy and the Alternatives, An Issue of Obstetrics and Gynecology Clinics of North America, Volume 43-3; 1st Edition
23. Lipschutz DI. Long-Term Mortality Associated With Oophorectomy Compared With Ovarian Conservation in the Nurses' Health Study. Obstetrics & Gynecology. 2013 Aug 1;122(2, PART 1):395-6.
24. Mikhail E, Salemi JL, Mogos MF, Hart S, Salihu HM, Imudia AN. National trends of adnexal surgeries at the time of hysterectomy for benign indication, United States, 1998–2011. American journal of obstetrics and gynecology. 2015 Nov 30;213(5):713-e1.