Hospital based analysis of 204 cases of hysterectomies with evaluation of the route of surgery and complications rates

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ABSTRACT:

Introduction: Hysterectomy is one of the most common operations performed by gynecologist.There are several techniques for hysterectomy such as Laparascopically Assisted Vaginal Hysterectomy and total vaginal hysterectomy are advances procedures for woman requiring hysterectomy. Infection, hemorrhage and injury to the adjacent organ are the most common complications of hysterectomies. In this study the route of hysterectomy and the complication rates in our hospital were evaluated.

Methods and material: This study was carried out on 226 patients who were underwent hysterectomies in Amir Hospital, Semnan, Iran.The route of hysterectomy, causes of surgery, and preoperative and early postoperative complications were evaluated.

Results: Among 204 cases of hysterectomies the route of operation were Abdominal in 183 patients (89/70%) , vaginal 11patients (5/39%) and laparoscopic assisted vaginal hysterectomies 8 patients (3/92%).There were 6 cases of urinary tract infection(3/27%.) , 3 bladder injury (1/6%) 2 wound infection (1/09%) ,and 16 post operative fever occured (8/74%) following abdominal Hysterectomies.One case of urinary tract infection (9/09%) in vaginal hysterectomy. Significant difference between the hematocrit level before and after surgery in abdominal and vaginal hysterectomy groups were present (P=0.000) But the difference in LAVH group was not significant (p=0.054).

Conclusion: The most common route of hysterectomy in our practice was abdominal. Post operative fever, urinary tract infection and bladder injury were the most complications respectively.

Keyword: abdominal, laparoscopi, complications, Route of hysterectomy, vaginal

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INTRODUCTION

There are varieties of techniques for hysterectomy which include abdominal, vaginal, and laparoscopic or combinations of several techniques. Although abdominal hysterectomy continues to be the most common approach used worldwide there is good evidence that vaginal hysterectomy is associated with fewer complications, a shorter hospital stay, more rapid recovery and lower overall costs. [1]

The most common complications of hysterectomies are infection, hemorrhage and injury to the adjacent organ and Harries et al found an overall complication rate of up to 50% with abdominal hysterectomy .Laparoscopy is preferred in many reports to abdominal hysterectomy by laparatomy because it is associated with significantly lower early post operative pain scores and complication rate, which has less blood loss, short hospital stay and lower hospital charge. [2,3]Laparoscopic hysterectomy is not associated with any increase in major complication rate when compared to abdominal or

Vaginal hysterectomy. [4] The preoperative and postoperative courses of the total vaginal hysterectomies were better than laparascopically assisted vaginal hysterectomy. [5] Total laparoscopic hysterectomy is a safe and less invasive procedure especially toward abdominal hysterectomy and shows significantly better post operative reconstitution, Vaginal hysterectomy is faster and shows comparable post operative results[6] laparascopic assisted vaginal hysterectomy is associated with significantly lower post operative pain scores and complication rates in comparison to abdominal hysterectomy when the vaginal approach cannot be used [7]. Laparoscopic and vaginal hysterectomies have the lowest complication rates [8] and there is higher risk for complications after abdominal hysterectomy than laparascopic assisted vaginal hysterectomy or vaginal hysterectomy. [9, 10]

In our hospital abdominal hysterectomy is the most common approach. So, in this study the route of hysterectomy and the complication rates were evaluated.

Methods and material:

This retrospective, descriptive study was carried out on 226 patients who were underwent for hysterectomies in Amir Hospital, semnan, Iran from the 1st of March 2006 to 30 March 2010.

Data were collected retrospectively from 226 consecutive cases that underwent hysterectomy.

Before surgery all patients had a careful pelvic and abdominal examination, cervical cytology and ultrasonography. Women who had abdominal, vaginal or laparoscopic assisted vaginal hysterectomies were selected if they had benign diseases of uterus such as leiomyomas; adenomyosis, abnormal uterine bleeding, and uterine prolapse.Exclusion criteria were cases that had no cervical cytology or ultrasonography before surgery, premalignant or malignancy of female genital tract. (Uterus, cervix. ovary…)

Route of hysterectomy, Causes of surgery and preoperative and early postoperative complications were recorded in each group.

Data are expressed as percentages and compared using the T test.Statistical analyses were performed by using statistical package for social medicine (version 16/0).

RESULTS:

The mean ages in this series were 46/66 ±. 9.41, 62.27±9.28 and 50.12±12.28 in abdominal, vaginal and laparoscopic Assisted vaginal hysterectomies respectively (22 cases were excluded).

Route of the operations were Abdominal in 183 patients (89/70%), vaginal 11patents (5/39%) and laparoscopic assisted vaginal hysterectomies (LAVH) 8 patients (3/92%). The most common cause of surgery were leiomyomas (41/2%), uterine prolapse(50%) and abnormal uterine bleeding(50%). preoperative and early post operative complications were 6 urinary tract infection(3/27%.) , 3 bladder injury (1/6%) 2 wound infection (1/09%) , 16 post operative fever (8/74%) occurred in abdominal hysterectomies. Only 1 urinary tract infection (9/09%) in the vaginal hysterectomy group was happened.

The mean hematocrit levels of the 3 routes before surgery were 38.25 ±4.14, 40.27 ±2.82 and 37.52 ±4.58 but the mean levels after surgery were (34.23 ±4.47), (34.34 ±4.52) and (32.05 ±4.00) in abdominal, vaginal and LAVH retrospectively. There were statistically significant difference between the hematocrit level before and after surgery in abdominal and vaginal hysterectomy groups (P=0.000, P=0.000 respectively) But the difference in LAVH group was not significant (p=0.054).Blood transfusion after Surgery required in 28 patients (15/30%) of the abdominal, 1 patients of vaginal (9/09%) and 2 patients (25%) of LAVH were done.

Complications	Route of Hysterectomy			Total
	Abdominal	vaginal	LAVH	
Urinary Tract Infection	6 (3/27%)	1(9/09%)	0	7(3/43%)
Bladder Injury	3(1/6%)	0	0	3(1/6%)
Wound infection	2(1/09%)	0	0	2(1/09%)
Postoperative fever	16(8/74%)	0	0	16(8/74%)
Blood Transfusion	*28(15/30%)*	*1(9/09%)*	*2(25%)*	31(15/2%)

Table1: Complications of hysterectomies

DISCUSSION

In this study surgical route for hysterectomy were 89/70% abdominal, 5/32% vaginal and 3/92% LAVH but in Debodinance study the surgical routes were 30.5%, 64.8% and 4.7% in abdominal, vaginal and vaginal laparoscopy respectively.

We concluded that changing the route of hysterectomy in our hospital is necessary because nearly all studies result reports that the vaginal route is the safer and better route .[11]

In this study the main indications for hysterectomies were either fibroid uterus or abnormal uterine bleeding. Debodinance study had the same result in regard to indication of hysterectomies.[11,12]

The results of our analysis showed that urinary tract infection and wound infection happened in 9 cases (4/41%) Makinen et al study approved that infections were the most common complication of hysterectomies with incidence of 10.5, 13 and 9% in the abdominal, vaginal and laparoscopic hysterectomies respectively.[13]

Bladder injury was reports in 3 cases (1/6%) of the study groups. This complication represents 0.9% of patients in Labaudie etal study.[14]

Lafay Pillet et al study reports that bladder injury during laparoscopic hysterectomy deceases from 1% to 0.4%.

So, the study of the Lafay Pillet and Shen et al are good suggestion for change in route of hysterectomies from abdominal to laparoscopic hysterectomy.[15,16] Salcedo study approved that vaginal hysterectomy as a part of minimally invasive gynecologic surgery could be done in non-prolapse cases such case uterine leiomyomas and this study is other good suggestion to change the route of hysterectomy.[17]

Among 1349 cases of abdominal hysterectomy, 0.3% bowel injury and 0.07% ureteric injury and 0.1 % bladder injury occurred in Kafy et al study, in our study more bladder injury but no bowel or ureteric injury has happened. [18]

In Roman et al study on 412 cases of laparoscopic assisted vaginal hysterectomies showed no damage to bowel, ureter or bladder however the total number of LAVH cases in this study was small but change in the route of hysterectomy may be a good way to decrease in complication rates. [19]

In regard to blood loss Hoffman et al study approved that in laparoscopic supracervical hysterectomy and total laparoscopic hysterectomy the adjusted blood loss are less than abdominal hysterectomy [20] and in this study the mean change of hCT level showed that in laparoscopic assisted vaginal hysterectomy group there is not significant blood loss.

CONCLUSION:

The most common route of hysterectomy in our hospital was abdominal.Post operative fever; urinary tract infection and bladder injury were the most common complications respectively. The results of this study conclude that there is a need to change the route of surgery for hysterectomies.

REFERENCES:

1. Rock JA, Jones HW.Telinde.s operative gynecology, 10th edition. Lippincott William and Wilkins.2008:727-30.
2. Abdollahi SF , Bahlouli A , Mostafa PG, et al.comparison of laparoscopy – assisted hysterectomies with conventional hysterectomies Saudi Med J.2009 Jun;30(6):813-6
3. Walsh CA, Walsh SR, Tang TY, et al. Total abdominal hysterectomy versus total laparoscopic hysterectomy for benign disease: a meta- analysis .Eur J Obstet Gynecol Reprod Biol. 2009 may; 144(1):3-7. Epub 2009.
4. Donnez O, Jadoul P, Squifflet J, et al. A series of 3190 laparoscopic hysterectomies for benign disease from 1990 to 2006: evauation of complications compared with vaginal and abdominal procedures. BJOG 2009; 116(4): 492-500.Epub 2008 Nov 11.

5. Zhu L, Lang JH, Liu CY, et al. Clinical assessment for three routes of hysterectomy. Chin Med J (Engl).2009 Feb 20 ; 122 (4) :377-80

6. Schindlbeck C, Klauser K, Dian D, et al. Comparison of total laparoscopic, vaginal and abdominal hysterectomy. Arch Gynecol obstet. 2008; 277(4):331-7.Epub2007Oct 16.

7. Muzii L, Basile S, Zupi E, et al. Laparoscopic – assisted vaginal hysterectomy versus minilaparotomy hysterectomy: a prospective, randomized, multicenter study. J Minim Invasive Gynecol 2007 Sep –Oct; 14(5):610-5.

8. Aniuliene R, Varzgaliene L, Var zgalis M. A comparative analysis of hysterectomies. Medicina (Kaunas) .2007 ;43(2):118-24

9. Kovac SR. Hysterectomy outcomes in patients with similar indication. Obstet Gynecol .2000 Jun ; 95(6 pt 1):787-93

10. Hidlebaugh D, O, Mara P, Conboy E. Clinical and financial analyses of laparoscopic ally assisted vaginal hysterectomy versus abdominal hysterectomy. J Am Assoc Gynecol Laparosc. 1994 Aug ; 1(4pt 1):357-61

11. Debodinance P. Hysterectomy for benign lesions in the north of France: epidemiology and postoperative events. J Gynecol Obestet Biol Reprod (Paris). 2001 ; 30(2):151-9

12. Jaenisch JB, Junior WA. 100 total laparoscopic hysterectomies in private practice in Brazil .J Am Assoc Gynecol Laparosc.1999 ; 6(2):169-71

13. Makinen J, Johansson J, Tomas C, et al. Morbidity of 10110 hysterectomies by type of approach. Hum Reprod. 2001 Jul ; 16(7) :1473-8

14. Lambaudie E, Boukerrou M, Cosson M, et al. Hysterectomy for benign lesions : preoperative and early postoperative complications) Ann Chir , 2000 May ;125(4):340-5

15. Lafay Pillet MC, Leonard F, Chopin N, et al. Incidence and risk factors of bladder injuries during laparoscopic hysterectomy indicated for benign uterine pathologies: a 14.5 years experience in a continuous series of 1501 procedures. Hum Reprod 2009 Apr; 24(4):842-9 Epub 2009.

16. Shen CC, Wu MP, Kung FT, et al. Major complications associated with laparoscopic-assisted vaginal hysterectomy: ten – years experience .J Am Assoc Gynecol Laparosc. 2003 May ; 10(2):147-53

17. Salcedo FL.Vaginal hysterectomy in non-prolapsed uteruses: no scar hysterectomy.Int Urogynecol J pelvic Floor Dysfunc. 2009 Sep; 20(9):1009-12.Epub 2009 Jun3.

18. Kafy S, Huang JY, Al-Sunaidi M, et al. Audit of morbidity and mortality rates of 1792 hysterectomies .J Minim Invasive Gynecol. 2006 ; 13(1) :55-9

19. Roman JD. Patient selection and surgical technique may reduce major complications of laparoscopic-assisted vaginal hysterectomy. J Minim Invasive Gynecol. 2006 ; 13(4) :306-10

20. Hoffman CP, Kennedy J, Borschel Burchette R, etal. Laparoscopic hysterectomy: the Kaiser Permanente San Diego experience. J Minim Invasive Gynecol. 2005 ;12(1):16-24