Hysterectomy....Which Route?

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Abstract

Objective We designed this study to focus on women with mobile uteri benign no larger than 14 weeks, who would ordinarily be considered candidates for vaginal hysterectomy and compare the outcomes when abdominal routes were chosen. We also compared the intra and post operative complications, requirement for blood transfusion, length of hospital stay, between abdominal and vaginal route of hysterectomy.

Method In a simple randomized prospective comparative study 200 consecutive patients requiring hysterectomy for benign uterine conditions were analysed over a period of 2 years. (June 2006–May 2008). Group A ($n = 100$) underwent vaginal hysterectomy (non descent vaginal hysterectomy, NDVH) which was compared with group B ($n = 100$) who had abdominal hysterectomy.

Results As far as duration of operation, duration of i.v. drip, mobilization in post operative ward, duration of hospital stay, P value was significant. Regarding blood loss P value was insignificant.

Conclusion The accessibility of the vaginal passage, disease confined to the uterus and the surgeons experience

are the major determining factors for the choice of the route of hysterectomy.

Keywords Hysterectomy ·
Non descent vaginal hysterectomy

Introduction

Hysterectomy is one of the most commonly performed major operations. Despite convincing evidence that vaginal hysterectomy is preferable when either vaginal or abdominal route is clinically appropriate, the only formal guideline available is the uterine size guideline by ACOG which suggest that the vaginal route is the most appropriate in women with mobile uteri no larger than 12 weeks gestational age (approximately 280 gm) [1]. ACOG also acknowledges that the choice of approach should be based on the surgical indication, anatomical condition, informed patient preference and the surgeons expertise and training [2].

More specific guidelines incorporating uterine size, risk factors and uterine and adnexal mobility and accessibility can help surgeons select the best route of hysterectomy and reduce the number of abdominal operations [3]. It is possible to use such guidelines to identify women with more or less serious diseases and study the route of hysterectomies. We designed this study to focus on women with mobile uteri no larger than 14 weeks and benign conditions confined to the uterus, who would ordinarily be considered

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candidates for vaginal hysterectomy and compare the outcomes when abdominal routes were chosen. We also compared the intra and post operative complications, requirement for blood transfusion, length of hospital stay, between abdominal and vaginal route of hysterectomy.

Material and Methods

In a simple randomized prospective comparative study 200 consecutive patients requiring hysterectomy for benign uterine conditions were analysed over a period of 2 years. (June 2006–May 2008). Group A ($n = 100$) underwent vaginal hysterectomy (non descent vaginal hysterectomy, NDVH) which was compared with group B ($n = 100$) who had abdominal hysterectomy.

The analysis was done on the basis of the following parameters: route of hysterectomy, age and parity diagnosis and pelvic pathology report, operating time, size of the uterus, complications, blood transfusion in the intra and postoperative period, length of stay in the hospital. Women were included in the study only if the uterine size was ≤ 14 weeks and if the operation was being performed for a benign uterine condition.

Women were excluded if their primary diagnosis were related to cancer, pelvic endometriosis, adnexal pathology, multiple abdominal scar from previous surgery and prolapse. Women who had oophorectomy concurrently with hysterectomies were included.

The operating time was noted from the operation register. Intra & post operative blood transfusion was also noted. The major complications were compared to one of the categories; hemorrhage requiring blood transfusion, injury to urinary or gastrointestinal tract, any emergency laparotomy in the immediate post operative period. Minor complications were analysed under these headlines: postoperative febrile morbidity, wound sepsis, vault hematoma or low backache. Individual complications rate and an overall complication rate were tabulated for each women (the data was statistically analysed using Chi-square test and P value was determined).

Results

Demographic characteristics demonstrated a marginal increase in age (1.4 year average) in patients who had vaginal hysterectomy. 100% of vaginal hysterectomy patients were parous (P2 + 0 onwards) in comparison to the abdominal group where 78% were parous. 29% of the patients in the abdominal group had one or more previous pelvic surgeries while 16% of the patients in the vaginal group had history of one pelvic surgery (e.g. tubal ligation, ovarian cystectomy or laparotomy).

Adhesions were seen in 35% of the patients in the abdominal group and 18% patients in the vaginal group.

In the abdominal group 74% had concurrent salpingoophorectomy (unilateral in 9% & bilateral in 65%), whereas only 12% had oophorectomy (unilateral 10%, bilateral 2%) in the vaginal group.

Histopathologically fibroid was diagnosed in 45% of the patients in the abdominal group, while 32% of the patients in the vaginal group had evidence of fibroid. The surgical techniques used in vaginal group with fibroid were bisection, myomectomy and morcellation. The average size of uterus in abdominal group was 11–12 weeks (270 gm) while the average size in vaginal group was 10–11 weeks (260 gm).

The duration of surgery was not of much difference in the two groups (48 min in the abdominal group and 42 min in the vaginal group).

The cost of the material used during operation was not of much difference. The average number of delayed absorbable suture material used in both group was either two or three in number (length 90 cm).

Five patients in the abdominal group required blood transfusion in the postoperative period while only one patient in the vaginal group required so.

None of the patients in the either group required relaparotomy for immediate postoperative complications. One patient in either group had bladder injury.

Minor postoperative complications were also noted including pyrexia, vault hematoma, wound hematoma and wound dehiscence. Incidence of wound infection and scar dehiscence was 5% in the abdominal group. Although incidence of pyrexia was higher in the vaginal group but most of them responded with antibiotics. In one patient in the vaginal group where the size of the uterus was 14 weeks had readmission with pyrexia and diagnosis of vault abscess was confirmed. Patient's condition improved following drainage of the abscess by vaginal route and she was discharged after five days.

The median length of hospital stay was 4.5 days in the abdominal group while the duration was 3.5 days in the vaginal group. Postoperative, the abdominal group required more analgesia in comparison to the vaginal group (See Tables 1, 2, 3, 4).

Discussion

For several decades, the abdominal approach been the most common route of hysterectomy despite the well documented benefits of the vaginal hysterectomy in terms of lower complication rates, shorter length of stay and convalescence and more favorable quality of life outcomes including reduced mortality [3–6]. The VALUE[7] study

Table 1 Age group

Age group (years)	VH		TAH	
	No.	%	No.	%
35–40	6	6	30	30
40–45	56	56	42	42
45–50	25	25	20	20
>50	13	13	8	8

VH vaginal hysterectomy

TAH total abdominal hysterectomy

Table 2 Indication of hysterectomy

Indication	VH		TAH	
	No.	%	No.	%
DUB	45	45	28	28
Myoma	32	32	45	45
Adenomyosis	6	6	18	18
Chronic pelvic pain	7	7	6	6
CIN	10	10	3	3

DUB dysfunctional uterine bleeding

Table 3 Operative observations

	VH	TAH	P value
Duration of operation			
≤40 min	58	37	0.0029 (significant)
>40 min	42	63	
Blood loss			
≤300 ml	53	51	0.7771 (not significant)
>300 ml	47	49	
Duration of i.v. drip			
≤24 h	73	53	0.0033 (significant)
>24 h	27	47	
Mobilization in post operative ward			
≤24 h	71	35	0.0000003 (significant)
>24 h	29	65	
Duration of hospital stay			
≤3 days	82	21	0.000000 (significant)
>3 days	18	79	

suggests that the surgeons still used the abdominal approach as the operation of choice, particularly in pelvic pathology or carrying out oophorectomy.

Although laparoscopically assisted vaginal hysterectomy has been proposed as replacement for abdominal hysterectomies and vaginal hysterectomies, advantages of this method over the vaginal route has not been documented in a population when there are no contraindications

Table 4 Complications

	VH	TAH
Major		
Hemorrhage (requiring blood transfusion)	1	5
Urinary tract injuries	1	Nil
Bowel injuries	Nil	Nil
Laparotomy	Nil	Nil
Minor		
Febrile morbidity	10	7
Wound sepsis	1	5
Vault hematoma	1	Nil
Low backache	6	10

to vaginal procedure. In fact laparoscopically assisted vaginal hysterectomies need prolonged operative time and increased cost [8].

Traditionally vaginal hysterectomies have been the procedure of choice for women with uterine weight up to 280 gm when benign disease is confined to the uterus [9]. Although there is a difference of 15 gm in mean weight in this study between two groups the higher weight does not represent technical challenges that would mandate a particular route. Vaginal hysterectomy can be performed in women with uterine weight of at least 450 gm [10]. Pre-operative ultrasound examination can provide the surgeon with valuable information on the estimated weight of the enlarged uterus and on the size of the fibroid before implementing a suitable surgical method.

This study focuses on a small segment of hysterectomies rather than assessing the decision making and outcome for all hysterectomies. The accessibility of the vaginal passage, disease confined to the uterus and the surgeons experience are the major determining factors for the choice of the route of hysterectomies. Medical standard in present day health system rely on the evidence base practice guidelines that are defined by outcomes rather than subjective criteria. There is marked variation in health care for alternative hysterectomy procedures. These variations are likely to persist until further outcome studies confirm a particular route of hysterectomy for each indication of hysterectomy.

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