The Evaluation of Simple Hysterectomies at Harran University Department of Obstetrics and Gynecology

HARRAN ÜNİVERSİTESİ TIP FAKÜLTESİ KADIN-DOĞUM BÖLÜMÜNDE BASİT HİSTEREKTOMİ OLGULARINA YAKLAŞIM

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Abstract

Objective: To determine our preferred route of hysterectomy with benign diseases that is confined to uterus.

Material and Methods: Data were collected from a total of 200 women who had hysterectomies in our clinic between January 2002 and February 2005. Patients were selected if they had abdominal or vaginal hysterectomies with benign diseases that were confined to uterus (leiomyoma, adenomyosis, abnormal uterine bleeding, cervical carcinoma in situ or prolapse) and if the uterus were smaller than 12 weeks of gestation. We compared our choice of approach with current clinical practice and evidence based medicine. Short term outcomes of hysterectomy like length of hospital stay and complication rates were also discussed.

Results: Vaginal hysterectomy was performed in 29% of women and the ratio of abdominal to vaginal route was 2.4:1. The most common indication for abdominal hysterectomy was leiomyomas (48.5%) and for vaginal hysterectomy it was prolapse (96.5%). Length of hospital stay was longer after abdominal hysterectomies than vaginal hysterectomies (6.1 ± 2.5 days and 4.4 ± 0.6 days respectively, $p< 0.0001$). Higher complication rates were observed after abdominal hysterectomies than vaginal operations (44.3%, 6.8%; $p< 0.0001$).

Conclusion: Although abdominal hysterectomy remains the predominant method of uterine removal, application of practice guidelines can increase the ratio of vaginal hysterectomies which has many advantages in regard to better short term outcomes, shorter length of hospital stay and overall cost of treatment.

Key Words: Route of hysterectomy, benign diseases, guidelines, short term outcomes

Özet

Amaç: Uterusa sınırlı ve benign özelliklere sahip hastalıklardaki histerektomi operasyonlarına yaklaşım tercihimizi değerlendirmek.

Gereç ve Yöntemler: Kliniğimizde Ocak 2002-Şubat 2005 tarihleri arasında yapılan 200 histerektominin verileri toplandı. Uterusa sınırlı, benign (leiomyoma, adenomyozis, anormal uterin kanama, karsinoma in situ veya prolapsus) ve 12 gebelik haftasından küçük uterusa sahip özellikleri gösteren hastalar çalışma kapsamına alındı. Histerektomi tipini belirlemedeki tercihimizi, günümüzdeki pratik uygulamalar ve kanıta dayalı tıpla kıyasladık. Hastanede kalış süresi ve komplikasyon oranları gibi kısa dönemdeki sonuçları da tartışıldı.

Bulgular: Olguların %29'una vaginal histerektomi uygulandığı ve abdominal histerektominin vaginal histerektomiye oranının 2.4:1 olduğu tespit edildi. Abdominal histerektominin en sık endikasyonu leiomyom (%48.5), vaginal histerektominin ise prolapsus (%96.5) idi. Hastanede kalış süresi abdominal histerektomide vaginal histerektomiye kıyasla daha uzundu (sırasıyla; 6.1 ± 2.5 gün ve 4.4 ± 0.6 gün, $p< 0.0001$). Abdominal histerektomi operasyonlarında vaginallere göre daha sık komplikasyon oranlarına rastlandı (%44.3, %6.8; $p< 0.0001$).

Sonuç: Abdominal histerektomi baskın olarak uygulanmaya devam edilen histerektomi tipi olmasına rağmen, pratikte konu ile ilgili tedavi protokollerinin uygulanması, kısa dönem etkileri iyi olan, hastanede kalış süresi az olan, daha düşük maliyet gibi avantajlara sahip olan vaginal histerektominin oranlarını artırabilir.

Anahtar Kelimeler: Histerektomi tipi, benign hastalıklar, tedavi protokolleri, kısa dönemde görülen etkiler

Turkiye Klinikleri J Gynecol Obst 2006, 16:77-81

Geliş Tarihi/*Received:* 05.07.2005 **Kabul Tarihi/*Accepted:*** 09.05.2006

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Hysterectomy is the second most common operation performed by gynecologists following cesarean section. Although the gynecologic surgeon should use the history, physical examination and the discussion with the patient

to match the appropriate route of hysterectomy to obtain the most satisfactory outcome, the gynecologic surgeons continue to use the abdominal approach other than vaginal or laparoscopic routes.

Abdominal approach is associated with higher incidence of complication rates, longer rates of hospital stay and convalescence and greater hospital charges than vaginal hysterectomy.[1-5] However, some surgeons remain reluctant to change their practice patterns and continue to select the abdominal route because of their comfort and preference to perform most of their hysterectomies by the abdominal approach.

Although there has been no formal guidelines adopted to assist physicians in selecting the most appropriate route of hysterectomy, American College of Obstetrics and Gynecology (ACOG) suggests that vaginal hysterectomy is most appropriate in women with mobile uteri no larger than the size of 12 weeks of gestation (approximately 280 g).[6] ACOG also acknowledges that the choice of approach should be based on the surgical indication, the patient's anatomic condition, data that support the approach, informed patient preference, and the surgeon's training and experience.[7,8]

In this study, we discussed our general policy about the management of hysterectomies with benign diseases that were confined to uterus by comparing with current clinical practice evidence based medicine. We also addressed short term outcomes like the lengths of hospital stay and complications rates associated with the type of the surgery.

Material and Methods

Data were collected retrospectively from 200 women who had hysterectomies between January 2002 and February 2005 at Harran University Department of Obstetrics and Gynecology. Medical records were transcribed from the medical charts such as age, route of hysterectomy, complications and lengths of hospital stay. Preoperative uterine size that was estimated by gestational age and converted into grams was judged by vaginal examination and ultrasound scan. An algebraic formula can be used to by multiplying the 3 dimensions of the uterus in centimeters (length × width × anteroposterior diameter at the fundus) × 0.52, determine uterine size in grams to obtain a more accurate preoperative estimate of uterine size.[9]

Women were included in the analysis, if they had benign disease that did not extend beyond the uterus (leiomyomas, adenomyosis, abnormal uterine bleeding, cervical carcinoma in situ or prolapse) and uterus not larger than 12 weeks of gestation. Women were excluded if their primary diagnoses were related to cancer or pregnancy, if secondary diagnoses suggested extrauterine disease such as endometriosis, pelvic inflammatory disease, adnexial pathology or chronic pelvic pain or if other procedures were done concurrently with the hysterectomy such as urinary incontinence surgery, vaginal repairs or appendectomies.

The complications such as hemorrhage, postoperative fever or infection, intestinal obstruction, urinary complications, injury to the bladder or ureter or perforation of a blood vessel, nerve or organ was recorded on the medical records. Individual complication rates and overall complication rates were also recorded for each woman.

Statistical Analysis

Student's t test was used to compare operation time and length of hospital stay. Chi-square statistics and Fisher exact test were used to compare the other parameters. $P< 0.05$ was considered significant.

Results

There were 200 hysterectomies performed who met the study criteria: 142 of them were abdominal (71%) and 58 were vaginal hysterectomies (29%) as shown in Table 1. The mean age for abdominal hysterectomy was 49.1 ± 9.2 years (range, 22-75 years) and 60.6 ± 9.0 years (range, 38-76 years), for the vaginal hysterectomy patients and there was statistically difference in the age group ($p< 0.0001$) (Table 1).

Among 142 abdominal hysterectomies 131 (92.2%) included oophorectomies whereas 6 (10.3%) cases of oophorectomies were performed at 58 vaginal hysterectomies as detailed in Table 1. The indications were also different between the two groups. Although leiomyomas (48.5%) were

Table 1. Demographic characteristics of the patients and the route of hysterectomies that were performed.

Characteristics	Route of hysterectomy		
	AH	VH	p
No. of patients	142 (71%)	58 (29%)	
Age (mean ± S.D)	49.1 ± 9.2	60.6 ± 9.0	< 0.0001
< 30 years n (%)	1 (0.7%)	0 (0%)	
30-39 years n (%)	12 (8.4%)	1 (1.7%)	
40-49 years n (%)	71 (50%)	7 (12%)	
50-59 years n (%)	38 (26.7%)	14 (24.1%)	
60-69 years n (%)	15 (10.5%)	28 (48.2%)	
> 70 years n (%)	5 (3.5%)	8 (13.7%)	
Surgery			< 0.0001
Hysterectomy and oophorectomy n (%)	131 (92.2%)	6 (10.3%)	
Hysterectomy n (%)	11 (7.7%)	52 (89.6%)	
Disease (% of cases)			
Anormal uterine bleeding n (%)	39 (27.4%)	2 (3.4%)	< 0.0001
Prolapse n (%)	8 (5.6%)	56 (96.5%)	< 0.0001
Leiomyomas n (%)	69 (48.5%)	0 (0%)	< 0.0001
Adenomyosis n (%)	12 (8.4%)	0 (0%)	< 0.05
Carcinoma insitu n (%)	5 (3.5%)	0 (0%)	> 0.05
Other n (%)	9 (6.3%)	0 (0%)	= 0.05

the most common disease and bleeding was the second for abdominal hysterectomies, vaginal hysterectomies included the highest percentage of women with prolapse (96.5%) (Table 1).

The mean operation time was 70.5 ± 27.1 minutes for abdominal hysterectomy and 68.5 ± 19.7 minutes for vaginal hysterectomy. Although the vaginal hysterectomy patients were older, the length of hospital stay was 6.1 ± 2.5 days for abdominal and 4.4 ± 0.6 for vaginal surgery and the difference was statistically significant (p< 0.0001).

Summary of complication rates were presented in Table 2. Post operative fever or infection was the leading complication for both groups. It was 28.8% for abdominal hysterectomies and this was significantly higher than for vaginal procedures (3.4%, p< 0.0001). Although, hemorrhage was the second common complication in abdominal operations, no case was observed in vaginal hysterectomies (p< 0.001). There was also statistically significance for overall complication rates between the two groups, 44.3% for abdominal and 6.8% for vaginal operations (p< 0.0001).

Discussion

The aim of the study was to determine our decision in selecting the appropriate route of hyster-

Table 2. Summary of complication rates in percentages.

	AH (n= 142) (%)	VH (n= 58) (%)	p
Complication			
Hemorrhage	11.2	0	< 0.001
Postoperative fever or infection	28.8	3.4	< 0.0001
Intestinal obstruction	0.7	0	> 0.05
Bladder injury	0.7	0	> 0.05
Urinary complications	0.7	0	> 0.05
Accidental perforation: blood vessel, nerve or organ	1.4	1.7	> 0.05
Anesthesia complications	0.7	1.7	> 0.05
Total	44.3	6.8	< 0.0001

ectomy with benign diseases that was confined to uterus. We found that the ratio of abdominal to vaginal operation was 2.4:1 for benign diseases that were confined to uterus in this study. However, there were conflicting results about the proportion.[10-12] It has been reported that the ratio of abdominal to vaginal operation was 3:1 in the United States,[10] and this ratio varied from 2.7:1 to 6.7:1 in England.[11] The National Center for Health Statistics Hospital Discharge Survey for 1997 informed that the ratio of abdominal to vaginal operation was 2:1.[12]

On the other hand, according to the Society of Pelvic Reconstructive Surgeons (SPRS) when the guidelines were applied, the ratio of abdominal-to-vaginal hysterectomy decreased from 3:1 in the 1989 to 1993 study period to 1:11 in the 1994 to 1999 study period.[7] This ratio was compared with other residency programs in the United States and Canada, which reported a 3:1 ratio of abdominal-to-vaginal hysterectomy.[7]

Several studies have suggested why abdominal hysterectomy still has been the predominant route of hysterectomy for the past several decades.[7,12,13] Residency training programs have stressed abdominal hysterectomy and surgeons have more experience and greater comfort level in performing. Habits, practice styles and preferences of physicians may dictate the route of hysterectomy rather than selecting the most appropriate approach. At last, surgeons have accepted the de facto guideline that abdominal hysterectomy is indicated when more serious pelvic disease is suspected without documentation of the actual pathologic condition.

Prolapse was the most common indication for vaginal route whereas the most common indication for abdominal hysterectomy was leiomyoma in our study; those supported the current clinical opinions in the literature.[12-15] Abdominal hysterectomy was performed in only 8 of 142 cases that involved only prolapse. Based on the subjective criteria such as comfort and experience, abdominal hysterectomy was the preferred route with other benign diseases, which indicates a disparity between evidence-based medicine and current clinical practice.

It has been reported that vaginal versus abdominal hysterectomy showed a significant difference in the length of time of the operation; abdominal hysterectomies were performed significantly faster than vaginal hysterectomies.[15] Another study by Kovac et al. found that the length of surgical time that was required was less for women who had a vaginal hysterectomy compared with abdominal route.[7] In our study, we found that there was no significant difference in terms of operation time between the two groups in our study.

Studies demonstrated that the length of hospital stay was shorter in vaginal hysterectomies compared with abdominal hysterectomies.[7] Our findings also supported the previous reports and we found that there was a significant difference in terms of hospital stay between the groups.

The Collaborative Review of Sterilization (CREST) study reported complication rates of 25% and 43% for vaginal hysterectomy and abdominal hysterectomy, respectively, with febrile morbidity accounting for the majority of complications.[3] This study also indicated that 7.2% of patients experienced unexplained fever with vaginal hysterectomy, compared with 16.8% with abdominal hysterectomy.[3] Kovac reported that the overall complication rate for abdominal hysterectomies was 9.3% and was 5.3% for vaginal hysterectomies. The rate of postoperative fever or infection after abdominal hysterectomies was significantly higher than after vaginal hysterectomies (4.0%, 0.8%, respectively; $p< 0.05$).[12] In our study the overall complication rates were 44.3% for abdominal and 6.8% for vaginal operations and postoperative fever or infection was the major complication rate accounting for 28.8% for abdominal and 3.4% for vaginal hysterectomies.

However, there are some limitations in the study. This study design focused on a small segment of hysterectomies rather than assessing the decision making and outcomes for all hysterectomies. Outcomes evaluated also were limited and did not include any primary patient sources or outcomes after the patients were released from the hospital. We have tendency to prefer to vaginal

hysterectomies in the case of uterine mobility or vaginal accessibility, however, the degree of vaginal accessibility was not evaluated well preoperatively in medical charts. We think that, medical standards in today's managed care environment must rely on evidence-based practice guidelines that are defined by outcomes, rather than subjective criteria such as physician comfort, preference, or experience and more specific guidelines incorporating uterine size, risk factors, and uterine and adnexial mobility and accessibility must be assessed that can help surgeons select the best hysterectomy route.[1]

In conclusion, although considerable variation has been observed in health care services for hysterectomy because of the better medical outcomes, the vaginal route should be used not only for prolapse, but also other benign diseases that confined to uterus.

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