

Comparison of Dilatation and Curettage and Uterobrush in Endometrial Assessment

Authors:

Shahnaz Aram*

Isfahan Al-Zahra Hospital, Dept. of Ob&Gyn

Maryam Golshahi

Isfahan Al-Zahra Hospital, Dept. of Ob&Gyn.

Fatemeh Golshahi

Isfahan Al-Zahra Hospital, Dept. of Ob&Gyn.

Elahe Amiri

Isfahan Al-Zahra Hospital, Dept. of Ob&Gyn.

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مقایسه نمونه برداری از حفره رحم با کورت و برس در ارزیابی آندومتر

خلاصه

مقدمه: دیلاتاسیون و کورتاژ روش بررسی معمولی آندومتر می باشد که مشکلات زیادی از قبیل هزینه بستری در بیمارستان و عوارض بیهوشی دارد. اخیراً روش نمونه برداری با برس برای تشخیص بیماریهای آندومتر بکار رفته و دارای عوارض و هزینه های کمتر می باشد. این مطالعه با هدف مقایسه نمونه برداری از حفره رحم با کورت و برس از نظر حساسیت، اختصاصیت و ارزش اخباری مثبت و منفی انجام شده است.

روش کار: این مطالعه توصیفی - مقطعی در بیمارستانهای بهشتی و الزهرا اصفهان در سال ۱۳۸۳ انجام شده است. ۱۲۰ بیمار که با شکایت گوناگون جهت دیلاتاسیون و کورتاژ در بیمارستان بستری شده بودند با بیهوشی عمومی ابتدا توسط نمونه برداری با برس و سپس به روش معمول دیلاتاسیون و کورتاژ از آنها نمونه گیری شد نمونه ها توسط یک پاتولوژیست مورد مطالعه قرار گرفت. مشخصات فردی و نتایج آزمایشگاه در پرسشنامه جمع آوری و توسط نرم افزار SPSS 10 و آمار توصیفی و جداول توزیع فراوانی پردازش شد.

نتایج: میزان حساسیت نمونه برداری با برس نسبت به دیلاتاسیون و کورتاژ ۹۳٪، اختصاصیت نمونه برداری با برس نسبت به دیلاتاسیون و کورتاژ ۱۰۰٪، ارزش اخباری مثبت ۱۰۰٪ و ارزش اخباری منفی ۶۵٪ بود. گزارشات ناموفق (نسج ناکافی) پاتولوژی در روش نمونه برداری با برس ۱۶/۷٪ و در روش دیلاتاسیون و کورتاژ ۱۰/۸٪ بوده است.

نتیجه گیری: روش نمونه برداری با برس یک روش تقریباً جدید برای تشخیص ضایعات خوش خیم و بدخیم رحمی می باشد که می تواند بعنوان یک روش غربالگری و همچنین روش ارزیابی اولیه ضایعات آندومتر باشد. بنابراین این روش می تواند جایگزین دیلاتاسیون و کورتاژ تلقی گردد. زیرا این روش هم برای بیمار و هم برای پزشک انجام دهنده آسانتر می باشد، در ضمن هزینه آن نیز کمتر بوده و بیمار درد و ناراحتی کمتری را متحمل می شود.

کلمات کلیدی: دیلاتاسیون و کورتاژ، نمونه برداری با برس، حساسیت، اختصاصیت

Address:

Deptar. of Obstetrics and Gynecology, Al-Zahra Hospital, Isfhan

Tell: 0311-685856

Email: aram@med.mui.ac.ir

Introduction

The endometrial cavity is frequently evaluated because of abnormal uterine bleeding, pelvic pain, infertility, pregnancy complications, or suspicion to endometrial cancer in Pap smear (1). The gynecologist has a variety of tools for this investigation. D&C (Dilatation and Curettage) is the routine and old method of studying the endometrium; and is associated with complications such as need for hospitalization expenses and anesthesia complications, and also less frequent problems like uterine rupture, cervical incompetence, intestinal and omental damage (2). The main goal of curettage is to extract a tissue sample of endocervix and endometrium for histologic evaluation of abnormal uterine bleeding. D&C indications are abnormal uterine bleeding, before hysterectomy, and to rule out endometrial or endocervical cancer in the menopausal; while the only contraindication is infection (3,4).

Due to the fact that in D&C only 20-50% of endometrial tissue is extracted, failure of diagnosis of the abnormal tissue is expectable (5). Therefore more recent methods are being assessed in terms of accessibility, easier manipulation, higher reliability, less complications and lower expenses for the clients.

The development of office-based endometrial biopsy has generally replaced the need for diagnostic method of D&C (4). Advantages of the office-based biopsy include: minimal cervical dilatation, no general anesthesia, one tenth of the cost of an in hospital D&C. Endometrial biopsy by uterobrush is a reliable, cost-effective, easy method to be performed at the outpatient clinics within 10-15 minutes, without anesthetics or any dilatation needed; while it has the optimal sensitivity for diagnosing cancer with much fewer complications.

In other studies the two methods of D&C and uterobrush have been compared in different aspects. In the study of Kalm, et al, on non-pregnant women who had been referred for colposcopy for evaluation of abnormal Pap smear, the false positive results in the D&C

and uterobrush methods didn't show significant difference (6).

In the study of Bunyare J, et al, two groups of patients underwent pipelle and curettage sampling. The pain suffered by patients in two groups showed significant difference. Sensitivity and specificity of pipelle compared to curettage was 87.5% and 100% respectively (7).

Also in the study of Delpriore G, et al, on women with the risk of endometrial cancer and clinical indication of endometrial biopsy, the two methods of Toa brush and pipelle (of uterobrush devices) showed positive and negative predictive values of 100% in the diagnosis of endometrial cancer. The results of this study showed that endometrial cancer can be reliably diagnosed in one session at clinic, and therefore in the patients with indication of endometrial biopsy no other test might be necessary for diagnosis or to rule out of atypism (8).

In the study of Epstein E, et al, 2001, over the postmenopausal women with complaint of vaginal bleeding, D&C was preferred only in cases with endometrial diameter exceeding 7mm (9).

The goal of the study is to evaluate uterobrush reports in comparison with D&C in terms of sensitivity, specificity, positive and negative predictive values.

Methods and Material

This cross-sectional descriptive study was performed in Beheshti and Al-Zahra Hospitals of Isfahan, Iran, in 2003 on women who had been hospitalized for D&C with complaints like infertility, suspicion to cancer, Hormone Replacement Therapy (HRT), Tamoxifen consumption, abnormal uterine bleeding, suspicious Pap smear. The study sample was selected in the convenient nonrandom model so that sampling would last until the sample size would be fulfilled. Inclusion criteria were any woman with the mentioned complaint to be a candidate of D&C with no contraindications for this procedure. They would be excluded in cases

of atrophic uterus in sonography or patient's disagreement for the study. When consent was taken from any of the patients, they would all undergo general anesthesia, and patient was positioned in gynecologic position. After prep and drep, uterobrush was inserted equal to the length of the uterus through cervix till reaching fundus, then with a slow circular movement of uterobrush to uterus periphery, it was extracted and the tissue was sent to a pathologist. Later on the same patient, D&C was performed in its routine way and again the sampled tissue was sent to the same pathologist.

This method was performed for all sample patients. Later the pathology reports were gathered and analyzed with SPSS 10 software and sensitivity, specificity, positive and negative predictive values were calculated and compared in the two methods.

Results

Of the 120 studied pathology samples in uterobrush method compared to the traditional method of D&C, 100 samples had uterine pathologic problem indicating a

positive result in 83.3%, while the same result in D&C group was 89.2%; which didn't show statistically significant difference ($p>0.05$). The frequency distribution of pathology reports of the two groups is depicted in details in table I.

The unsatisfactory results of uterobrush was seen in 20 reports, while the D&C method had 13 such reports; so they had 16.7% and 10.8% unsatisfactory reports respectively. In fact the uterobrush group had 7 more negative results which would be considered as false negative. So it can be concluded that both methods had 13 unsatisfactory reports which is 10.8% of samples.

Therefore, uterobrush method has had a sensitivity of 93% and specificity of 100% in comparison to D&C method, while its positive predictive value was 100% and the negative predictive value was 65%.

The average age of patients in this study was 42.7 ± 9.6 . Among the 120 women in this study, commonest indication for D&C was abnormal uterine bleeding, seen in 111 (92.5%) cases of the sample; followed by pain, in 7 women (5.8%), and spotting, in 2 (1.7%).

Table 1: Frequency distribution of pathology reports in D&C and uterobrush groups of women undergoing endometrial biopsy in Isfahan- 2003

Method pathology	Brushing		D and C	
	percentage	number	percentage	number
Decidualized	1.7	2	5	6
Estrogen effect	0.8	1	0.8	1
Hyperplasia	14.2	17	15	18
Myoma	0	0	3.2	4
Normal	3.3	4	0	0
Polyp	0	0	6.7	8
Incomplete abortion	0.8	1	0.8	1
Progesterone effect	6	5	5	6
Proliferative	40	48	37.5	45
Secretory	18.3	22	14.2	17
Unsatisfactory	16.7	20	10.8	13
Adenomyosis	0	0	0.8	1
Total	100	120	100	120

Conclusion

In this study among 120 women, none of the D&C reports had the result of malignancy or even cellular atypism. Just in 13 D&C cases, the method couldn't provide enough tissue for histologic evaluation leading to the unsatisfactory report of the pathologist; while in the uterobrush group, we had 20 of such result. Of course of the 7 excess unsuccessful sampling in the uterbrush group, 5 were polyp, one myoma and one decidual tissue; while the same in D&C group were secretory tissue. In addition, the four reported myoma results in D&C group were reported in uterbrush to be normal endometrial tissue. The mentioned results support this idea that uterobrush seems unable to diagnose non-endometrial tissues like myoma or polyp which might be mainly dependent on the technique details. In this new method, actually, sampling device is used just at the surface tissue while in D&C a greater sample is obtained to study the subendometrial tissues as well.

In our study, sensitivity, specificity, positive predictive value and negative predictive values were mentioned to be 93%, 100%, 100%, 65% respectively, which is nearly as the same as the results in the study of Delpierore (8). They had 22 cellular atypism or cancer reports, while we had none. So we could not assess diagnostic power of uterobrush for endometrial malignancies in comparison with D&C technique.

A meta-analysis of 39 studies involving 7914 women showed that: Pipelle sampling was most sensitive for the detection of endometrial cancer and atypical hyperplasia. The detection rates for endometrial cancer by Pipelle in postmenopausal and premenopausal women were 99.6% and 91% respectively. Fewer than 5% of patients had an insufficient sample (10).

In the study of Epstein H, et al, uterobrush was not able to diagnose any of the polyps while it could diagnose 94% of the hyperplasia cases. In this study all the study sample were postmenopausal and had

undergone sonography to measure trans-vaginal diameter. The results indicated that in endometrial diameter below 7mm both methods showed the same results and failure to the correct report in uterobrush group was for diameters exceeding 7mm. actually, in our study, no trans-vaginal sonography was performed for endometrial diameter measurement so that pathology reports could not be compared according to endometrial diameter.

All sampling devices perform better diagnosis when pathology is global rather than focal; therefore additional endometrial assessment should be performed if abnormal uterine bleeding persists after a benign endometrial biopsy like atrophy (11), proliferative endometrium (12), secretory endometrium and endometritis (13); and also if the biopsy has been non-diagnostic as in polyps, fibroids, or lesions in the area not to have been sampled (14, 15).

What could be concluded from this research was that uterobrush method had a high sensitivity and specificity in diagnosis of benign uterine pathologies and could be used as a routine screening technique for endometrial dysfunction. As a conclusion, uterobrush is an almost new method of diagnosing benign and malignant uterine lesions which can be performed as the primary evaluation method for endometrial problems due to its convenience for both patient and physician and also the lower expenses and pain suffered by the client. So that if the report of uterobrush mentions a benign endometrial lesion, no further D&C is required unless symptoms tend to continue; while if the sample is reported to be unsatisfactory, D&C might be necessary to avoid any possibility of mistake in the diagnosis. Therefore D&C indications would be limited to the following: non-diagnostic office biopsy in those at high risk of endometrial carcinoma, insufficient tissue for office biopsy, and cervical stenosis preventing completion of office biopsy.

Abstract

Introduction: D&C as a routine endometrial assessment method has many problems such as high hospitalization expenses and anesthesia complications. Recently, uterobrush has been used for the diagnosis of endometrial pathologies in order to cause lower complications and expenses. In this study the two methods were compared in terms of sensitivity, specificity, positive predictive value and negative predictive values.

Materials and Methods: This cross-sectional descriptive study was performed in Beheshti and Al-Zahra Hospitals of Isfahan, Iran, in the year 2003 on women who had been hospitalized for D&C with different complaints. All study sample under went anesthesia and first a uterobrush sample and then the routine D&C sample were obtained to be sent to the same pathologist. Then, pathology reports were gathered and analyzed with SPSS 10 software.

Results: Sensitivity, specificity, positive predictive value and negative predictive values were 93%, 100%, 100%, and 65% respectively in uterobrush group in ratio to the D&C group. The rate of unsatisfactory results report in uterobrush group was 16.7%, while D&C had a report of 10-8% of such results.

Conclusion: Uterobrush is an almost new method for diagnosing benign and malignant uterine lesions. It may be performed as the screening and primary evaluation method for endometrial problems. Therefore it could replace D&C; due to its convenience for both patient and physician, and also the lower expenses and less pain suffered by the client.

Keywords: Dilatation and curettage, Uterobrush, Sensitivity, Specificity

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