Zagazig University Medical Journal
www.zumj.journals.ekb.eg
Volume 28, Issue 6, November 2022(158-163) Supplement Issue
Manuscript ID ZUMJ-1910-1610 (R2)
DOI **10.21608/zumj.2020.18925.1610**

ORIGINAL ARTICLE

Office Hysteroscopic Endometrial Polypectomy in Premenopausal Women at Zagazig University Hospitals: Traditional versus Vaginoscopic Approach

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Submit Date 2019-11-02
Revise Date 2019-12-24
Accept Date 2020-01-13

ABSTRACT

Background: Endometrial polyps are a main cause of Abnormal Uterine Bleeding (AUB) in premenopausal & postmenopausal women and are suggested by screening transvaginal ultrasound. The current study aimed to determine the effectiveness and acceptability of outpatient hysteroscopic endometrial polypectomy by vaginoscopic approach, and if the technique confers any advantage in terms of patient discomfort and reduction in procedure time over the traditional technique.

Methods: This study was a prospective randomized clinical trial, and it was carried out in the Endoscopy Unit in the Department of Obstetrics and Gynecology at Zagazig University Hospitals, in the period from May 2018 to April 2019.

Results: There was a statistically significant difference between the traditional and vaginoscopic groups in procedure time as the traditional technique needed more time than vaginoscopic one (7.8 VS 6.1 minutes), and all cases had (100.0%) success rate of polypectomy in both groups without complication. But histopathology results discovered one case (2.5%) of all study groups had adenocarcinoma and the patient was sent to the oncology unit for further evaluation and appropriate management.

Conclusions: Office vaginoscopic polypectomy for small polyp is a feasible and safe minimally invasive procedure.

Keywords: Hysteroscope; Vaginoscopic; Traditional; Endometrial polypectomy.

INTRODUCTION

Endometrial polyps are considered a main cause of Abnormal Uterine Bleeding (AUB) in premenopausal & postmenopausal women and are suggested by screening transvaginal ultrasound [1]. Polypectomy under hysteroscopic polypectomy is the best treatment for endometrial polyps, as blind curettage could miss small polyps and other abnormal structures. Operative hysteroscopic polypectomy can be easily performed in an outpatient setting with minimal discomfort by technological improvements producing narrow diameter hysteroscopy [2]. The instruments required for removing the polyp through the hysteroscopy include micro scissors, grasping forceps, bipolar electrosurgical probe, morcellator, and electrosurgical loop (i.e., mini-resectoscope) [2]. After diagnosis the uterine polyp, it must be removed directly because the uterine polyps are unlikely to spontaneously resolve, to alleviate AUB symptoms, optimize fertility, and exclude serious endometrial disease [3].Hysteroscopy was highly accepted as a gold method for the direct visualization of the endometrial cavity. The main indications were abnormal uterine bleeding and subfertility. It is considered a good, tolerated outpatient procedure with a high rate of success [4].When comparing office hysteroscopic endometrial polypectomy under no anesthesia with conventional hysteroscopic endometrial polypectomy under anesthesia, it was found that the first technique is a well-tolerated procedure, and it displayed the same efficacy with a shorter procedure time and lower complication rate [5]. Vaginoscopy is faster to perform, less painful, and with a high rate of success than the standard hysteroscopy. And it should be considered the best technique for outpatient hysteroscopy [6]. The aim of the current study was to determine the effectiveness and acceptability of outpatient hysteroscopic endometrial polypectomy by vaginoscopic approach, and if the technique confers any advantage in terms of patient discomfort and reduction in procedure time over the traditional technique.

METHODS

This study was a prospective randomized clinical trial. It was carried out in the Endoscopy Unit in

the Department of Obstetrics and Gynecology at Zagazig University Hospitals in the period from May 2018 to April 2019. It included 40 premenopausal women undergoing endometrial polypectomy. They were divided into two groups, group (A) undergoing traditional hysteroscopic technique and consisting of 20 patients, and group (B) included the same number (20 patients) undergoing vaginoscopic approach.Informed written consent was obtained from all the participants. The study was approved by the research ethics committee of the Faculty of Medicine, Zagazig University. And it was carried out in accordance with the Ethical Code of the World Medical Association (Declaration of Helsinki) for studies involving humans.**Inclusion Criteria** were premenopausal women with the age of 40 years old up to menopause, patients with endometrial polyps diagnosed by transvaginal or saline infusion sonography, and polyps' size ≤ 2 cm. **Exclusion criteria** were virgins, patients with BMI >40, presence of any uterine anomaly, and presence of uncontrolled chronic medical illness.

All patients were subjected to the following: Careful history taking (personal, present, past medical, past surgical, Obst/Gyn, family, and drug history) and Careful clinical assessment for patients (General examination and vital signs, abdominal and vaginal examination). Patients came to the endoscopy unit with routine investigations: (HbsAg, HCV Ab, HIV Ab), and pregnancy tests. The device used was Bettocchi Hysteroscope set, (Karl Storz, Germany). This system used included:Hopkins forward oblique telescope of 30º, diameter of 2.9 mm, length of 30 cm, autoclavable, fiberoptic light transmission and color code red. Bettochi inner sheath, size of 4.3 with a channel for semirigid 5Fr. operating instrument. Micro-scissors, semi-rigid, pointed, single action jaws, 5 Fr and length of 34 cm. Grasping Forceps, semi-rigid, double action jaws, 5 Fr., length of 34 cm. Fiber optic light cable, with connector, a diameter of 2.5 mm, and length of 180 cm. Patients were divided into 2 groups randomly: Group A included 20 patients for the traditional technique with speculum and tenaculum and Group B included 20 patients for the vaginoscopic approach. Both groups had polypectomy done by using semi-rigid micro-scissor and grasping-forceps. All polyps were sent for histopathology. Recording the pain score from the patient after finishing the procedure was according to the 0 – 10 Numeric Rating Scale. The Patient was asked about pain intensity according to the scale: 0 > no pain, 1-3 > mild pain, 4-6 > moderate pain, and 7-10 > severe pain. [7]

STATISTICAL ANALYSIS

All demographic and clinical data were analyzed by the SPSS program. The significance level was set at ($p<0.05$) and ($P<0.001$) as high significance.

RESULTS

Table (1) showed that there was no statistically significant difference between the traditional and vaginoscopic groups in age and BMI. Table (2) showed that there was no statistically significant difference between the traditional and vaginoscopic groups in parity and mode of delivery. Table (3) showed that irregular bleeding was the commonest indication for hysteroscopic polypectomy followed by both irregular bleeding and pain and there was no statistically significant difference between the traditional and vaginoscopic groups in patients' complaints and indications of hysteroscopic polypectomy. Table (4) showed that there was a statistically significant difference between the traditional and vaginoscopic groups in procedure time as traditional technique needed more time than vaginoscopic one (7.8 VS 6.1 minutes), and all cases had (100.0%) success rate of polypectomy in both groups without complication. But histopathology results discovered one case (2.5%) of all study groups had endometrial carcinoma (adenocarcinoma). Table (5) showed that there was a statistically significant difference between the traditional and vaginoscopic groups in pain score as the traditional technique was more painful than the vaginoscopic one (5.9 VS 4.1). But regarding pain severity, there was no statistically significant difference between the traditional and vaginoscopic groups despite (75.0%) of the traditional group had moderate pain while in the vaginoscopic group, (50.0%) had moderate pain and (50.0%) had mild pain with no severe pain in both groups

Table (1): Comparison between the traditional and vaginoscopic groups in age and BMI:

Variable	Traditional group No. (20) mean ± SD (range) Median	Vaginoscopic group No. (20) mean ± SD (range) Median	t-test	P
Age (years)	47.6±2.2 (45-51) 47	47.4±2.4 (45-52) 48	0.5	0.6

Variable	Traditional group No. (20) mean ± SD (range) Median	Vaginoscopic group No. (20) mean ± SD (range) Median	t-test	P
BMI	27.9±5.1 (20-38) 26.5	28.9±5.1 (20-40) 27.4	0.4	0.7

Table (2): Comparing parity and mode of delivery between the traditional and vaginoscopic groups:

Variable	Traditional group No. (20)		Vaginoscopic group No. (20)		Mann-witenny test	P
Parity **mean ± SD (range) Median**	1.6±1.1 (0.0-5) 1.5		1.7±1.3 (0.0-5) 2		0.5	0.6
	No (20)	**%**	**No (20)**	**%**	**Test χ^2**	**P**
Nulliparous (3)	1	5.0	2	10.0	0.6	0.7
Multiparous (37)	19	95.0	18	90.0		
Mode of delivery: vaginal (25)	11	55.0	14	70.0	0.7	0.6
Cesarean section (12)	8	40.0	4	20.0		

Table (3): Comparison between the traditional and vaginoscopic groups in indications of hysteroscopic polypectomy:

Variable	Traditional group No (20)	%	Vaginoscopic group No (20)	%	test χ^2	P
Irregular bleeding (24)	10	50.0	14	70.0	1.7	0.9
Both Pain and irregular bleeding (16)	10	50.0	6	30.0		

Table (4): Comparing outcomes (procedure time, histopathology results, and success rate of procedure) between the traditional and vaginoscopic groups:

Variable	Traditional group No. (20) mean ± SD (range) Median	Vaginoscopic group No. (20) mean ± SD (range) Median	t-test	P
Procedure time (minutes)	7.8± 1.5 (3.2-10.12) 7.5	6.1± 1.4 (3.2-8.5) 5.8	2.7	0.03*

Variable	**Traditional group**		**Vaginoscopic group**		**test**	
	No (20)	**%**	**No (20)**	**%**	**χ^2**	**P**
Histopathology					Not applicable	
Benign	20	100.0	19	95		
Malignant	0.0	00.0	1	5		
Success					Not applicable	
Yes	20	100.0	20	100.0		
No	0.0	00.0	0.0	00.0		

* Statistically significant difference ($P \leq 0.05$).

Table (5): Comparing pain score between the traditional and vaginoscopic groups:

Variable	Traditional group No. (20) mean ± SD (range) Median	Vaginoscopic group No. (20) mean ± SD (range) Median	t-test	P
Pain score	5.9± 1.12 (2-7) 4.5	4.1± 7.3 (2-5) 3	2.5	0.04*

Variable	Traditional group No (20)	%	Vaginoscopic group No (20)	%	test χ^2	P
Mild (1-3)	6	30.0	1	5.0	2.1	0.08
Moderate (4-6)	14	70.0	10	50.0		
Severe (7-10)	0.0	00.0	0.0	00.0		

* Statistically significant difference (P ≤ 0.05).

DISCUSSION

Hysteroscopy could be considered as the best method for the evaluation of the uterine cavity and detecting the intrauterine pathology [8]. While many international studies supposed that hysteroscopy for outpatient without analgesia or anesthesia is a good-tolerated method with a high rate of success, it is considered an invasive and painful technique by gynecologists and patients [9]. The pain during this technique represents the common reason for failure which happened in the case of using local anesthesia [10]. Although some literature suggests that the pain control for hysteroscopy is still unclear, Pain management is considered the main problem for the success of outpatient gynecologic technique [11]. Dilating the vagina with a speculum and grasping the cervix with a tenaculum have painful implications for the patient [12]. There are lots of trials in the literature to control pain without the use of pain relief and anesthesia [13]. In a prospective randomized trial, Music was found to be a useful method for anxiety control and reduction of pain during office hysteroscopy [14]. Vaginoscopy was also considered a 'no-touch' technique, which was an alternative way for performing hysteroscopy without using a vaginal speculum to see the cervix or cervical instrumentation to observe the steady of the cervix [15]. This method was useful for the complete elimination of any premedication, analgesia, and anesthesia, making this method faster without complications for diagnostic investigation [16]. Office hysteroscopy is considered the standard method for diagnosis and evaluation of the uterine cavity. The main problems for using this technique are the high pain and less patients' compliance compared to invasive diagnostic methods (i.e., ultrasonography). However, the reduction of hysteroscope calibration, the unnecessary of anesthetics and analgesia in addition to the introduction of vaginoscopic method improved patients' compliance to hysteroscopy significantly [12]. Also, according to many studies [17], [18], and[19]. The vaginoscopic technique for hysteroscopy doesn't need any premedication and makes the operation faster with very low complications.The current study showed that there was no statistically significant difference between the traditional and vaginoscopic groups in patients' complaints and indications of hysteroscopic polypectomy. The current study showed that there was a statistically significant difference between the traditional and vaginoscopic groups in procedure time as the traditional technique needed more time than the vaginoscopic one (7.8 VS 6.1 minutes, P=0.03). These data agreed with Sharma et al [10], who reported that the vaginoscopic hysteroscopy with either a 2.9-mm or a 4-mm 30° scope was significantly faster than the traditional method independent of the reproductive_state of patients, but these data disagreed with Guida et al., [12], who found that there was no statistically significant difference regarding duration time of the operation between the two methods. All cases in the study had a 100.0% success rate of polypectomy in both groups without complication, need for local anesthesia, or misoprostol usage. And according to histopathological results of biopsy (97.5%) of all cases were benign, and only one was malignant, which represents (2.5%) of all cases.This study showed that there was a statistically significant difference between the traditional and vaginoscopic groups in pain score as the traditional technique was more painful than the vaginoscopic one (5.9 VS 4.1, P=0.04). But regarding pain severity, there was no statistically significant difference between the traditional and vaginoscopic groups although (75.0%) of the traditional group had moderate pain while in the vaginoscopic group, (50.0%) had moderate pain and (50.0%) had mild pain with no severe pain in

both groups.These results were supported by many studies as Guida et al., 2006, [12] who performed a study on 300 patients in two groups: Group A included 150 patients diagnostic hysteroscopy with vaginoscopic technique, and Group B included 150 patients diagnostic hysteroscopy with traditional technique. The degree of pain of patients was rated during four phases of the technique, then the total pain score was calculated for both groups. In their study, although the median of total pain scores was 2 in every group, the 95% confidence interval for the vaginoscopic hysteroscopy was lower significantly than the traditional hysteroscopy ($P < 0.05$).Sagiv et al., [20], performed a study on 130 patients who underwent diagnostic hysteroscopy and were randomized, using a computer-generated randomization list to one of two treatment groups in a ratio of 2:1. 38 patients underwent hysteroscopy without tenaculum, speculum, or anesthesia. 47 patients received intracervical anesthesia and underwent traditional hysteroscopy. Hysteroscopy was performed by a rigid 3.7-mm hysteroscope and a medium with 0.9% saline. A visual analog scale (VAS) consisting of a 10-cm line was used to evaluate the intensity of pain during and after the operation. Overall satisfaction of patients was evaluated, immediately after, 15 minutes later, and after three days of hysteroscopy. They found that the score of pain was lower significantly in the group without a speculum, tenaculum, and anesthesia (VAS1: 3.8±2.7 versus 5.34±3.23, P=.01; VAS2: 3.02±2.50 versus 4.57±3.30, P=.008). The rate of patient satisfaction was the same in both groups [20].Garbin et al., [21] performed a prospective randomized study which was conducted in two centers for comparing the transvaginal (n = 200) and conventional (n = 200) techniques in outpatient hysteroscopy. Patients were randomized by a computer-generated list. The main resulting measurement was pain during the examination, which was measured by visual analogue scale (VAS) graded from 0 to 10 (0 = lowest, 10 = highest). The other criteria were ease of instrument passage through the cervix, quality of investigation, and duration. For data analysis, Median VAS was rated at 0.5 for the vaginoscopic and 2 for the standard ($P < 0.0001$) approaches. The approaches did not differ significantly in the investigation quality, procedure duration, or ease of cervical passage (although the latter was more often easy transvaginally). They concluded that the transvaginal approach was better tolerated than the conventional technique in outpatient diagnostic hysteroscopy.

CONCLUSIONS

Office vaginoscopic polypectomy for small polyp size is a feasible and safe minimally invasive procedure.

Conflict of Interest: None.
Financial Disclosures: None.

REFERENCES

1- Wortman M. See-and-Treat hysteroscopy in the management of endometrial polyps. Surg Technol Int. 2016; 28: 177-84.
2- Indraccolo U, Di Iorio R, Matteo M, Corona G, Greco P, Indraccolo SR. The pathogenesis of endometrial polyps: a systematic semi-quantitative review. Eur. J. Gynaecol. Oncol. 2013; 34 (1): 5-22.
3- Clark TJ, Middleton LJ, Am Cooper N, Diwakar L, Denny E, Smith P, et al. A randomized controlled trial of outpatient versus inpatient polyp treatment (OPT) for abnormal uterine bleeding. Health Technol Assess (Winchester, England) 2015; 19 (61): 1.
4- Ngu SF, Cheung VY, Pun TC. Randomized study of vaginoscopy and H Pipelle vs traditional hysteroscopy and standard Pipelle. J Minim Invasive Gynecol. 2012; 19 (2): 206-11.
5- Bergamo AM, Depes DDB, Pereira AM, Santana TCDD, Lippi UG, Lopes RGC. Hysteroscopic endometrial polypectomy: outpatient versus conventional treatment. Einstein (Sao Paulo) 2012; 10 (3): 323-8.
6- Smith PP, Kolhe S, O'Connor S, Clark TJ. Vaginoscopy against standard treatment (VAST): a randomised controlled trial. BJOG. 2019; 126 (7): 891-99.
7- Hartrick CT, Kovan JP, Shapiro S. The numeric rating scale for clinical pain measurement: a ratio measure? Pain Pract. 2003; 3 (4): 310-6.
8- Goyal BK, Gaur I, Sharma S, Saha A, Das NK. Transvaginal sonography versus hysteroscopy in evaluation of abnormal uterine bleeding. Med J Armed Forces India. 2015; 71 (2): 120-5.
9- del Valle C, Solano JA, Rodríguez A, Alonso M. Pain management in outpatient hysteroscopy. Gynecol Minim Invasive Therap 2016; 5 (4): 141-7.
10- Sharma M, Taylor A, di Spiezio Sardo A, Buck L, Mastrogamvrakis G, Kosmas I, et al. Outpatient hysteroscopy: traditional versus the 'no-touch' technique. BJOG 2005; 112 (7): 963-7.
11-Tangsiriwatthana T, Sangkomkamhang US, Lumbiganon P, Laopaiboon M. Paracervical local anaesthesia for cervical dilatation and uterine intervention. Cochrane Database Syst. Rev. 2013; (9).
12- Guida M, Di Spiezio Sardo A, Acunzo G, Sparice S, Bramante S, Piccoli R, et al. Vaginoscopic versus traditional office hysteroscopy: a randomized controlled study. Hum Reprod. 2006; 21 (12): 3253-7.
13-IssatT,BetaJ,NowicaMA, Maciejewski T, Jakimiuk AJ. A randomized, single blind, placebo-controlled trial for the pain reduction during the outpatient hysteroscopy after ketoprofen or intravaginal misoprostol. J Minim Invasive Gynecol. 2014; 21 (5): 921-7.
14- Angioli R, Nardone CDC, Plotti F, Cafà EV, Dugo N, Damiani P, et al. Use of music to reduce anxiety during office hysteroscopy: prospective randomized trial. J. Minim. Invasive Gynecol. 2014; 21 (3): 454-9.
15- Cooper NA, Smith P, Khan KS, Clark TJ. Vaginoscopic approach to outpatient hysteroscopy: a

systematic review of the effect on pain. BJOG 2010; 117 (5): 532-9.

16- Cicinelli E. Diagnostic minihysteroscopy with vaginoscopic approach: rationale and advantages. J Minim Invasive Gynecol. 2005; 12 (5): 396-400.

17- Campo R, Van Belle Y, Rombauts L, Brosens I, Gordts S. Office mini-hysteroscopy. Hum Reprod Update 1999; 5 (1): 73-81.

18- Cicinelli E, Parisi C, Galantino P, Pinto V, Barba B, Schonauer S. Reliability, feasibility, and safety of minihysteroscopy with a vaginoscopic approach: experience with 6,000 cases. Fertil Steril. 2003; 80 (1): 199-202.

19- Pellicano M, Guida M, Zullo F, Lavitola G, Cirillo D, Nappi C. Carbon dioxide versus normal saline as a uterine distension medium for diagnostic vaginoscopic hysteroscopy in infertile patients: a prospective, randomized, multicenter study. Fertil Steril. 2003; 79 (2): 418-21.

20- Sagiv R, Sadan O, Boaz M, Dishi M, Schechter E, Golan A. A new approach to office hysteroscopy compared with traditional hysteroscopy: a randomized controlled trial. Obstet Gynecol. 2006; 108 (2): 387-92.

21- Garbin O, Kutnahorsky R, Göllner JL, Vayssiere C. Vaginoscopic versus conventional approaches to outpatient diagnostic hysteroscopy: a two-centre randomized prospective study. Hum Reprod. 2006; 21 (11): 2996-3000.

To Cite:

Albakry, M., Hafez, E., Amin, A., Sufya, W., Office Hysteroscopic Endometrial Polypectomy in Premenopausal Women at Zagazig University Hospitals: Traditional versus Vaginoscopic Approach. *Zagazig University Medical Journal*, 2022; (158-163): -.doi: 10.21608/zumj.2020.18925.1610