

Diagnostic Features and Therapeutic Consequences of Hysteroscopy in Women with Abnormal Uterine Bleeding and Abortion

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Abstract: Problem statement: Hysteroscopy is a procedure in which the endometrial cavity is observable and subject of manipulation via transcervical route. Hysteroscopy is a minimally invasive process in diagnosis and treatment of many intrauterine and endocervical conditions. Polypectomy, myomectomy and endometrial ablation could be easily manageable by this procedure. According to safety and high efficiency of hysteroscopy, this method is changing to a widespread procedure in dealing with many gynecologic and obstetrical conditions. This study aimed at evaluating the diagnostic and therapeutical efficiency of hysteroscopy in managing of common conditions including abnormal uterine bleeding and abortion. **Approach:** In a descriptive cross-sectional setting, 243 women underwent hysteroscopy were evaluated in two groups: with uterine bleeding 236 cases and with recurrent abortions 7 cases. This study was conducted in Tabriz Alzahra Educational Center during a 15-month period. The main causes of the complaints were determined in each group. Six months after treatment, the overall success rate was recorded. **Results:** Hysteroscopy was the sole diagnostic procedure in 16.5 and 14.3% of the patients in groups with abnormal uterine bleeding and abortion, respectively. In the group with abnormal uterine bleeding, curettage, myomectomy, polypectomy, hysterectomy, laparoscopy and laparotomy were the main diagnostic-therapeutical approaches along with the hysteroscopy in descending order. In the group with recurrent abortion, laparoscopy, curettage and myomectomy were the main diagnostic-therapeutical approaches along with the hysteroscopy in descending. There was not any major complication. The diagnostic-therapeutical measures accompanying with the laparoscopy were successful in 73.5% of the bleeding group in follow-up period. **Conclusion:** Based on our results, hysteroscopy is a safe, accurate and highly-efficient procedure in managing women with abnormal uterine bleeding and recurrent abortion.

Key words: Hysteroscopy, recurrent Abortion, uterine bleeding, diagnostic-therapeutical, therapeutic method, treatment type, endometrial cavity, laparoscopy

INTRODUCTION

Hysteroscopy is a method through which endometrial cavity can be observed and manipulated transcervically. Hysteroscopy is considered a minimally invasive approach which can be used for data analysis and treatment of numerous intrauterine and endocervical problems (Loffer *et al.*, 2000; Nabila *et al.*, 2009). In many developed countries, hysteroscopy has replaced curettage in diagnosing and if possible treating abnormal uterine bleeding sources. The advantage of this method is the direct view and

simultaneous intervention (Bradley *et al.*, 2000; Cooper and Brady, 1999). Mullerian system abnormalities are the most common intrauterine disorders which are associated with infertility problems and spontaneous abortion. These disorders are related to developmental defects (agenesis, unicorn uterus), junction defects (bicornuate uterus) or defects in tube canalization (septated uterus) (Breek, 2002). Primary diagnosis is difficult due to the wide range of symptoms in these disorders including menstruation bleeding occlusion in the beginning of puberty, hypermenorrhea, vaginal discharges,

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dyspareunia, infertility and abortion. Diagnostic measurements are based on hysterosalpingography, laparoscopy, hysteroscopy and sonography. Many of the disorders can be observed primarily in hysterosalpingography and sonogram but to be approved further imaging is a required. In these cases, MRI is considered the first option. Laparoscopy and hysteroscopy are kept for the patients needing interventional treatments (Baggish *et al.*, 1999). Considering the efficacy and safety of hysteroscopy in diagnosing and treating many common obstetrical and gynecological conditions, expanding this method in our centers is an essential; a fact that has not been focused on so far. Therefore, in this study we are to evaluate the diagnostic and therapeutic efficacy of hysteroscopy in the common positions like abnormal uterine bleeding and abortion.

MATERIAL AND METHODS

In the descriptive -analytic study carried out in Tabriz Alzahra Hospital from 2008-2009, the hysteroscopy results of 243 patients were studied. In this study 243 patients referred with the complications of vaginal bleeding (236 cases) and the recurrent abortions (7 cases) were divided into three groups.

Underlying reasons of abnormal uterine bleeding and abortion were clarified in hysteroscopy and their frequency in each group was determined based on the treatment type. Patients being treated using hysteroscopy were followed six months after treatment and success rates were determined. In evaluating treatment results, the patients were included in the study that could be followed up at least six months after treatment. Knowing that this diagnostic and therapeutic method is performed routinely for qualified patients in Alzahra educational therapeutic center and no extra intervention was performed, no specific ethical problem was faced. Patients' data remained confidential. This study has been approved by Tabriz medical science University ethics committee. The following variables were studied: age, gravidity, parity, history of previous abortion, number of abortions, duration of the complaints, hospitalization time, contraceptive type, menstruation status, treatment type and complications or failure of diagnosis-treatment.

RESULTS

243 females who were performed hysteroscopy were divided into three groups: 236 cases with vaginal bleeding and 7 cases of recurrent abortions. The characteristics of patients are presented in Table 1 and Fig. 1. Treatment type in three groups is summarized in Table 2.

Table 1: Demographic parameters of patients

	Recurrent abortions	Uterine bleeding	P_value
Age (year)	32.7±6	41.3±8.3	<0.001
Gravidity	4.4±1.4	3.8±2.5	0.536
Parity	1.4±1.6	3.3±2.3	0.029
Abortion	3.3±2.0	0.6±1.2	0.011
Admitted duration	2.9±0.7	3.1±1.4	0.691
Prevention	1(14.3%)	39(16.5%)	-
No	0	72(30.5%)	
Tubal ligation	0	9(3.8%)	
Vasectomy	2(28.6%)	55(23.3%)	
Withdraw	0	24(10.2%)	
Candom	4(57.1%)	17(7.2%)	
OCP	0	20(8.5%)	
Intra uterine device	5(71.4)	74(31.6%)	-
Period	1(14.3%)	140(59.3%)	
Regular	1(14.3%)	3(1.3%)	
Irregular	0	19(8.1%)	
Absent	0	19(8.1%)	
Menopause	0	19(8.1%)	

Table 2: types of treatment in three groups

	Recurrent abortions	Uterine bleeding
Hysteroscopy	1(14.3%)	39(16.5%)
Hysteroscopy and myomectomy	1(14.3%)	19(8.1%)
Hysteroscopy and curettage	2(28.6%)	88(37.3%)
Hysteroscopy and polypectomy	0	6(2.5%)
Hysteroscopy, curettage and polypectomy	0	12(5.1%)
Hysteroscopy and hysterectomy	0	14(5.9%)
Hysteroscopy and laparoscopy	3(42.9%)	11(4.7%)
Hysteroscopy and laparotomy	0	3(1.3)
Hysteroscopy, myomectomy and curettage	0	36(15.3%)
Hysteroscopy, myomectomy and polypectomy	1(0.4%)	1(0.4%)

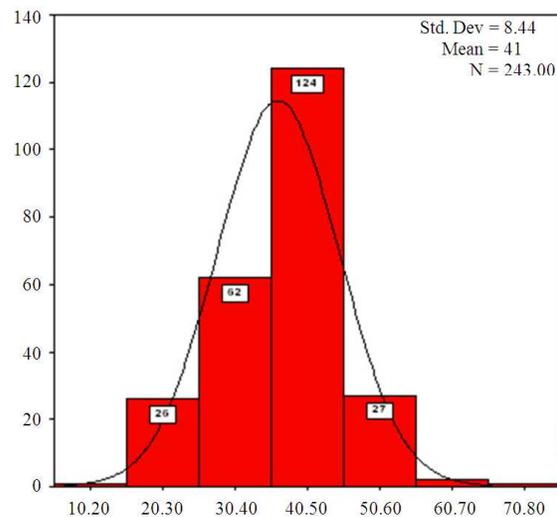


Fig. 1: Scattering age of patients

Complications related to hysteroscopy were not seen in any of the patients. In the group of vaginal bleeding, 34 patients could be followed up. In the recurrent abortion group none of the cases could be followed up.

DISCUSSION

In this study, we evaluated the diagnostic and therapeutic results of hysteroscopy in females with abnormal uterine bleeding and recurrent abortion.

Abnormal uterine bleeding: In the group of abnormal uterine bleeding, hysteroscopy was used as the only diagnostic method in 16.5% of the cases. In this group the most common diagnostic therapeutic method combined with hysteroscopy were curettage, myomectomy, polypectomy, hysterectomy, laparoscopy and laparotomy. No complication was observed and in 73.5% of the cases diagnostic and therapeutic measures had led to the treatment of uterine bleeding. In the study of Liu *et al.* (2007) which was carried out on 35 females with abnormal uterine bleeding, the treatments using hysteroscopy were successful in 85.7% of the cases (Liu *et al.*, 2007). In the study of Engelsen *et al.* (2006) which was carried out on 386 females with abnormal uterine bleeding, hysteroscopy was successful in 83.4% of the cases (Engelsen *et al.*, 2006). In the study of Loffer *et al.* (2000) which was carried out on the 177 females with abnormal uterine bleeding, hysteroscopy in 95.9% of the cases was successful regarding diagnosis and treatment (Loffer, 2005). As it can be seen, the results obtained from our study are in accordance with the results obtained from similar studies. Van Dongen *et al.* (2009) in a study carried out on 21 patients with abnormal uterine bleeding used hysteroscopy as a diagnostic or therapeutic method. The underlying reason was uterine polyp in most of the cases which was treated properly (Van Dongen *et al.*, 2009). Fuentes *et al.* (2007) in a study carried out on 5103 cases of hysteroscopy due to abnormal uterine bleeding diagnosed and treated 641 cases of endometrial polyps. Only in one case was there a report of seizure and in another case uterine perforation as diagnostic-therapeutic complications (Fuentes, 2007). In another study carried out by Alanis Fuentes *et al.* (2007), 372 females in the age of menopause with abnormal uterine bleeding were studied. Uterine atrophy, polyp, cancer and hyperplasia were the most common causes of bleeding respectively. In this study, hysteroscopy was introduced as a prime diagnostic and therapeutic method in this group of patients (Fuentes *et al.*, 2007). In the study of Lasmar *et al.* (2008), 4054 cases of hysteroscopy combined with biopsy were studied. In this study also endometrial polyp was introduced as the most common cause of abnormal uterine bleeding (Lasmar *et al.*, 2008). Cravello *et al.* (2004) in a study introduced hysteroscopy as the golden standard of

treating uterine bleeding caused by uterine myomas (Cravello *et al.*, 2004). Mukhopadhyay *et al.* (2007) in a study compared three methods of transvaginal sonography, hysteroscopy and endometrial biopsy regarding the diagnosis of the reasons causing abnormal uterine bleeding. Finally it should be mentioned that hysteroscopy is the most specific and sensitive diagnostic modality for endometrial polyps (Mukhopadhyay *et al.*, 2007). As it was previously mentioned, most diagnosed patients in this study were performed polypectomy, myomectomy or curettage which is suggestive of the high incidence of benign uterine lesions as underlying bleeding sources. The results obtained from this study are in accordance with the results obtained from similar studies, i.e., hysteroscopy is a safe and efficient diagnostic-therapeutic method in evaluating and treating this group of patients.

Recurrent abortion: In the recurrent abortion group, hysteroscopy was used as the only diagnostic method in 14.3% of the cases. In this group, Laparoscopy, curettage and myomectomy were the most common associated diagnostic-therapeutic measures respectively. Filho *et al.* (2006a), in two studies, demonstrated that this method is efficient in the diagnosis of abortion causes and in the treatment of possible cases (Filho *et al.*, 2006a). Filho *et al.* (2006b). Dendrinis *et al.* (2008) studied 48 infertile females. In 52% of the cases hysteroscopy was normal. In the rest of the cases, myomas, adhesion, polyp and structural disorders were reported. In this study, hysteroscopy was introduced as a safe and efficient diagnostic-therapeutic method in these patients (Dendrinis *et al.*, 2008). In the study of Ventolini *et al.* (2004), 23 patients with recurrent abortions were studied. In 60.9% of the cases, there were no abnormal findings. In the rest of the cases structural uterine disorders, myomas, adhesion were reported. Pregnancy ratio was 29% after treatment (Ventolini *et al.*, 2004). Weiss *et al.* (2005), in a study, concluded that hysteroscopy is indicated in every female with two abortions (Weiss *et al.*, 2005). The results obtained from our study are in accordance with the similar studies however the number of patients with recurrent abortions is low in the present study.

CONCLUSION

Hysteroscopy was used as the only diagnostic method in the groups with abnormal uterine bleeding and recurrent abortions in 16.5 and 14.3% of the cases. In the group of abnormal uterine bleeding, curettage, myomectomy, polypectomy, hysterectomy, laparoscopy

and laparotomy were the most common diagnostic-therapeutic approaches combined with hysteroscopy respectively. In the group with recurrent abortion, laparoscopy, curettage and myomectomy were the most common diagnostic-therapeutic approaches combined with hysteroscopy respectively. No major complication was reported in any of the patients. In the follow-up of patients, bleeding cessation and pregnancy was reported in two groups with abnormal uterine bleeding in 73.5%.

Based on the results obtained from the present study, hysteroscopy is a safe and efficient method in diagnosis and treatment of the causes leading to abnormal uterine bleeding and recurrent abortions and therefore it should be used as a less invasive method in the management of these patients. Further prospective studies with higher sample volumes are needed to reach more precise results on the efficacy of hysteroscopy in the patients with recurrent abortions.

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