Hystroscopic Endometrial Ablation for Treatment of Perimenopausal Bleeding in Upper Egypt

Mamoud Edessy, Abd El-Aziz G. El-Darwish; Faisal Ali Mustafa; Zainab S.Sayed

Department of Obstetrics & Gynaecology, Faculty of Medicine
Al-Azhar University (Assiut- Egypt)

Abstract

Back ground: The exact impact of endometrial resection for treatment of perimenopausal bleeding in upper Egypt is one of minimally invasive and safe method modality.

Objective: To evaluate endometrial ablation by resectoscope in perimenopausal bleeding.

Patients and Methods: 60 patients suffering from perimenopausal bleeding divided into two equal groups. First group 30 patients managed by Hystroscopic endometrial ablation, 2nd group 30 patients managed by abdominal hysterectomy both groups followed up for 6 months post operatively.

Results: Hystroscopic endometrial ablation when compared to abdominal hysterectomy, has highly significant difference as regard to duration of procedure in the study groups (P = 0.001), their was also highly significant difference as regard to duration of hospital stay in the study groups (P=0.001). Their was also high significant difference as regard to vaginal discharge (P = 0.001), also their was highly significant difference as regard to recovery to daily activities in the two group (P = 0.001).

Conclusions: Hystroscopic endometrial ablation is an effective an very safe method in treatment of perimenopausal bleeding.

{**Citation:** Mamoud Edessy, Abd El-Aziz G. El-Darwish, Faisal Ali Mustafa, Zainab S.Sayed. Hystroscopic endometrial ablation for treatment of perimenopausal bleeding in Upper Egypt. American Journal of Research Communication, 2015, 3(6): 84-96} www.usa-journals.com, ISSN: 2325-4076.

Introduction

Abnormal bleeding around the time of menopause is common and may be a sign of premalignancy such as endometrial hyperplasia or even endometrial carcinoma. As such all will need uterine assessment which may include transvaginal scan combined with endometrial biopsy, hystroscopic or sonohysterogram. Having excluded (pre) cancer, treatment can then be offered. Medical treatment options include tranexamic acid to reduce blood loss, low dose contraceptive pills, the levonorgestrel intra-uterine device and cyclic progestin's. Surgical options include respecting submucous fibroids hystroscopically, endometrial ablation and hysterectomy *(Bradley, 2013).*

Dilatation and curettage (D & C) causes a temporary reduction of menstrual blood loss for the first month, but at following cycles, the amount of blood loss tends to increase as compared to the blood loss before the D &C Therefore, D &C must be considered obsolete in the treatment of dysfunctional uterine bleeding, but unfortunately it is still performed on a large scale in women suffering from dysfunctional uterine Bleeding *(Haynes et al., 2007).*

Endometrial ablation is an effective treatment for Abnormal Uterine bleeding (AUB) and is useful for those who fail hormonal therapy or for those who do not wish to take a hormonal treatment and avoids hysterectomy. Endometrial hyperplasia is at least relative contra-indication but hyperplasia with atypia and genital tract cancer are absolute contra-indications. Its essential that endometrial hyperplasia and cancer be excluded prior to the ablation. Submucous fibroids can be hystroscopically resected and then endometrial ablation performed in the one procedure. If significant adenomyosis is present, then endometrial ablation can result in severe pain, sometimes requiring hysterectomy. Between 10 and 20% of patients who have had endometrial ablation will go on to have a hysterectomy *(Kaunitz et al., 2009).*

Hysteroscopic resection was the first efficacious ablation therapy for intrauterine fibroids. It was introduced in 1976 by Neuwirth RS. and offered a surgical alternative to hysterectomy. Subsequently, laser ablation, radio-frequency monopolar resection, and rollerball ablation were developed. These techniques, commonly addressed as first generation ablation techniques *(Vancaillie, 2009).*

Hysterectomy is the only treatment for dysfunctional uterine bleeding that guarantees a definite solution. Hysterectomy is a major operation associated with morbidity

and even mortality that necessitates hospitalisation and several weeks of recovery. Despite this fact, hysterectomy provides a high quality of life and a high satisfaction rate after treatment. Large population based studies showed the mortality rate of hysterectomy for benign conditions to be 1 in 2000 in women under age of 50 *(Carlson et al., 2004).*

Patients and Methods

This study is a prospective randomized controlled study that conducted in the department of obstetrics and gynecology of Al-Azhar University Hospital of Assiut through the period starting from October 2012 to October 2014, 60 patients complaining from perimenopausal bleeding, the aim was to study hystrascopic endometrial ablation versus abdominal hysterectomy for treatment of perimenopausal bleeding.

Sixty patients with perimenopausal bleeding included in a prospective controlled comparative study. Fractional biopsies carried out for all the participating patients to exclude malignant and premaligant lesions. These patients divided into two groups:

- **First group:** Include 30 patients who accepted the endometrial ablation as a treatment for their problems.
- **Second group:** Include 30 patients who accepted the abdominal hysterectomy, as a treatment for their problems.

Inclusion criteria

This study is a comparative study that includes the patients who intended the gynecology clinic in Al-Azhar University in Assiut – Egypt that complaining of premenopausal bleeding with the following criteria:

- Age of the patient is 40-50 years,
- size of the uterus is not more than 12 weeks,
- the patient has no chronic diseases as liver diseases, diabetes mellitus,…. Etc.
- the patient has no bleeding tendency,

Exclusion criteria

- Asymmetrical enlarged uterus.
- Any adnexal swelling.

- Any cervical lesions.
- Endometrial hyperplasia with atypia detected by D & C.

The information on the endometrial ablation contain information about treatment in day care, the 20-minute duration of the procedure under general or regional anesthesia, possible complications of the procedure and of anesthesia, the possibility of vaginal discharge for several weeks after the procedure, and also the fast recovery to daily activities.

Patients choice abdominal hysterectomy explained for them the procedures, efficacy, duration of operation, hospital stay, delay recovery to daily activity, possible complication, type of anesthesia.

Follow up

- **Follow-up of group I** the bleeding behavior carried out over 6 months and how many patients needed traditional hysterectomy as a solution.
- **Follow up of group II** the patients at the period of follow up asked about the following items: Fatigue – irritability – depression – general health – improvement of symptoms – limitation of daily activities.

Results

This study was conducted at Al-Azhar University Hospital (Assiut) Department of Obstetrics and Gynecology from October 2012 to October 2014. The study included 60 patients complaining of perimenopausal bleeding and after fulfillment the inclusion criteria all patients included divided into two groups:

- **Group I** in which 30 patients who accept endometrial ablation for treatment of their problems.
- **Group II** in which 30 patients who accept abdominal hysterectomy for treatment of their problems.

Table (1): Distribution of age and parity in the study groups

	Group I		Group II		P. value
	No.	%	No.	%	
Age:					
40 – 45 years, N (%)	19	63.3	20	66.7	0.787
46 – 50 years, N (%)	11	36.7	10	33.3	0.786
Parity:					
0 – 5, N (%)	21	70.0	19	63.3	0.584
>5 , N (%)	9	30.0	11	36.7	0.585

Table (2): Duration of procedure, hospital stay, vaginal discharge and recovery to daily avidities in the study groups

	Group I		Group II		Mean Difference	95 % CI	t	P. value
	Mean	SD	Mean	SD				
Duration of procedure	26.2	4.3	54.8	9.4	-28.67	[-32.45:-24.89]	-15.19	0.001
Hospital stay	1.4	0.6	4.6	2.3	-3.20	[-4.08:-2.32]	-7.32	0.001
Vaginal discharge	17.0	2.4	0.3	1.0	16.70	[15.76:17.64]	35.47	0.001
Recovery of daily activities	1.4	0.6	14.5	3.8	-13.17	[-14.57:-11.77]	-18.81	0.001

Table (3): Type of anesthesia used in the study groups

	Group I		Group II		P. value
	No.	%	No.	%	
Type of anesthesia:					
General	4	13.3	11	36.7	0.074
Spinal	26	86.7	19	63.3	0.074

Table (4): Distribution of complication in the study groups

	Group I		Group II		P. value
	No.	%	No.	%	
Complications:					
No	27	90.0	24	80.0	0.469
Bladder enjury	0	0.0	1	3.3	0.500
Delayed recovery from anesthesia	1	3.3	1	3.3	1.000
Gapped wound	0	0.0	1	3.3	0.500
Ureteric enjury	0	0.0	1	3.3	0.500
Uterine perforotion	1	3.3	0	0.0	0.500
Volume overload	1	3.3	0	0.0	0.500
Wound infection	0	0.0	2	6.7	0.472

Table (5): Follow up three months and six months in the study groups

	Group I		Group II		P. value
	No.	%	No.	%	
Follow up after 3m:					
No bleeding	25	86.2	22	75.9	0.531
Depression	0	0.0	1	3.4	0.500
Hypomenorrhea	2	6.9	0	0.0	0.472
Menopusal symptoms	0	0.0	6	20.7	0.015*
Vaginal bleeding	2	6.9	0	0.0	0.472
Follow up after 6m:					
No bleeding (amenorrheic)	21	82.7	25	86.2	1.000
Hypomenorrhea	3	10.3	0	0.0	0.472
Menopusal symptoms	0	0.0	4	13.8	0.020*
Vaginal bleeding	2	6.9	0	0.0	0.472

Table (6): operation needed in the study groups

	Group I		Group II		P. value
	No.	%	No.	%	
Need to other operation:					
No	28	93.3	28	93.3	1.000
2nd suture	0	0.0	1	3.3	0.500
Abdomenal hysterectomy	2	6.7	0	0.0	0.472
double J-ureteric stent	0	0.0	1	3.3	0.500

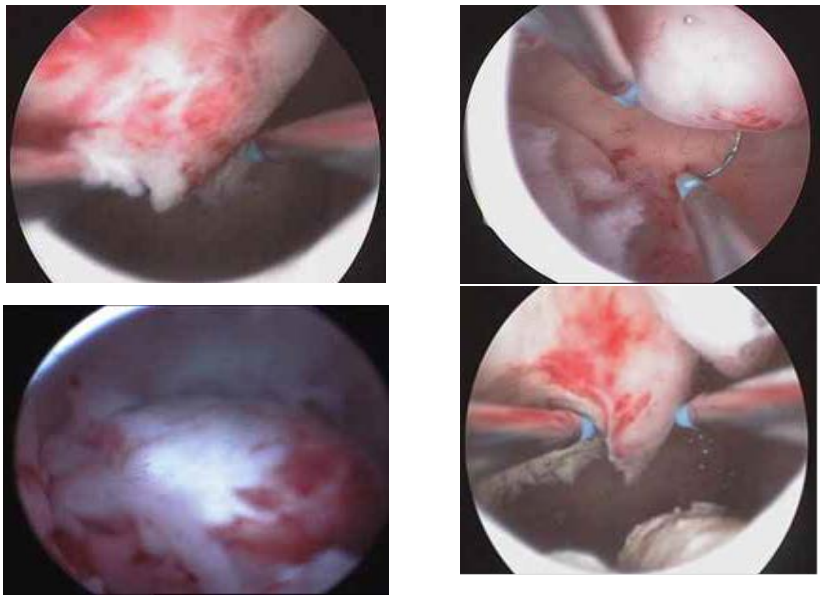

Fig. (1): Resection of sub mucous fibroid.

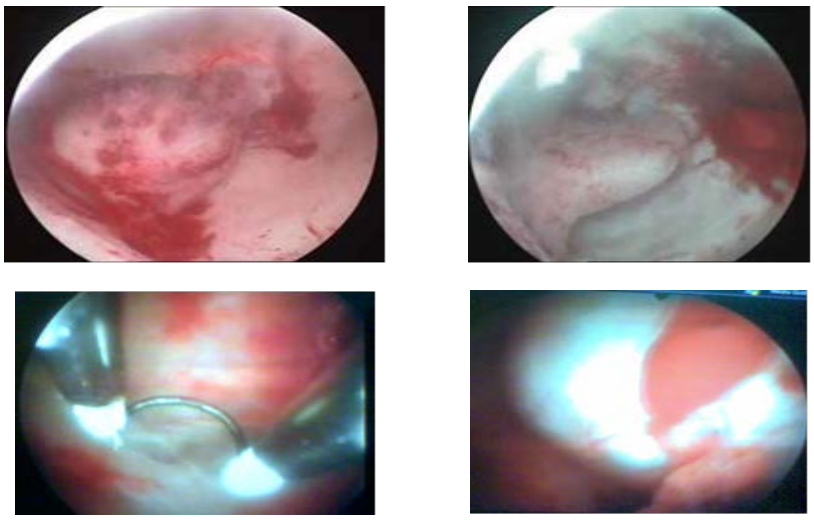

Fig. (2): Removal of fibroid polyp.

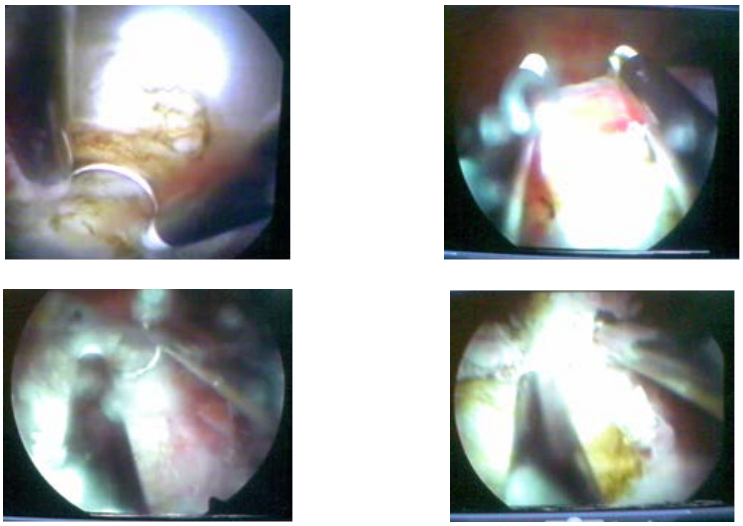

Fig. (3): Resection of endometrium by resectoscope.

Discussion

The Role College of obstetricians and Gynecologists (RCOG) has reported that 42% of hysterectomies in the United Kingdom are performed for dysfunctional uterine bleeding *(Amso et al., 2008).*

In the United States, approximately one third of the 600,000 hysterectomies performed annually are for refractory bleeding. The histology in some 100,000 of these uteri demonstrated no anatomical pathology. While curative, hysterectomy is not a trivial undertaking; its mortality ranges from 6 to 11 per 10,000 procedures and morbidity from 3 to 50% *(Amso et al., 2008).*

In our present study all our patients were between 40 and 50 years and were grouped as follows: Group I 19 patients (63%) were between 40 and 45 years and 11 patients (37%) were between 46 and 50 years. Group II 20 patients (66.66%) were between 40 and 50 years and 10 patients (33.33%) were between 46 and 50 years. All other age groups were excluded.

In a study by *Lewis, 2004* endometrial ablation is usually performed on patients aged 35 to 45 or 50 years old. Although the greatest success was achieved in perimenopausal women, the procedure may be an option for some women with postmenopausal DUB and normal pelvic findings, atrophic endometrium with no detectable explanation for the symptoms.

Endometrial ablation is, however, contraindicated in patients presenting with abnormal uterine bleeding in association with active pelvic infections, adnexal masses, extensive adenomyosis or endometriosis, atypical endometrial hyperplasia, genital prolapse, bleeding of undermined cause, cancer cervix and desire for future fertility *(Siegler, 2010).*

In our study patients with any uterine pathology were exclude in Group I and only patients with proliferative or secretary endometrium were included.

Evaluation of the various aspects concerning endometrial ablation was mandatory before widespread use of the procedure. Our present study aimed at such an evaluation. The average time for endometrial ablation procedure was 26.2 minutes (± 4.3). the average time for hystectomy was 54.8 minutes (± 9.4). This time excluded the time needed for induction and recovery from anesthesia.

The short operative time was of special importance in unfit patients with morbid obesity, cardiovascular diseases (hypertension and coronary artery disease), respiratory diseases (chronic cough and smoking), insulin dependent diabetes, chronic renal diseases, thyroid dysfunction (thyroidectomy and autoimmune thyroiditis) and severe anemia. The procedure is therefore suitable for patients in whom their medical condition precluded major surgeries. This group of patients constituted 50% of the total number of patients enrolled in our present study. Anemia in 20%, marked obesity in 43.3% hypertension in 23.3%, heart disease in 3.3% and diabetes in 10%.

Endometrial ablation, like any surgical procedure, is not without complications, but in general terms, the morbidity rate appears to be of a completely different magnitude. Precise ablation of the endometrium with conservation of the healthy uterus should reduce the surgical risks *(Vilos et al., 2010).*

Anesthetic risks to the patients, up to and including death, are no different from those when any general (or epidural) anesthesia is administered. Prevention rests in ensuring that the patient is in all respects fit enough to withstand general anesthesia and in entrusting her care to a skilled anesthetist.

In our study anesthetic complications, in this study, included one patient with a delayed recovery from general anesthesia for low oxygen saturation because of obesity in group I and one patient with a delayed recovery form general anesthesia in group II of unknown cause.

In a study by *(Burn et al., 2010)* uterine perforation is potentially one of the most serious complications of endometrial ablation procedures. Studies did not report adequately on the exact incidence of uterine perforation, however an incidence close to the incidence of uterine perforation during IUCD insertion was suggested.

In our study one case of uterine perforation was reported in group I during endometrial ablation the patient managed conservatively. Nausea and vomiting were reported in 23.9% of the patients enrolled in a study by *Vilos et al. 2010* on sixty-six women in the immediate post procedure hours.

In our study, nausea and vomiting in the immediate post-procedure hours were reported in 5 of the 30 patients (16%) in group I. however, it was adequately managed by anti emetics.

In the study by *Grainger et al. 2010,* vaginal discharge was experienced by all the patients and lasted between 10 and 30 days due to shedding to the uterine lining.

Anesthetic risks to the patients, up to and including death, are no different from those when any general (or epidural) anesthesia is administered. Prevention rests in ensuring that the patient is in all respects fit enough to withstand general anesthesia and in entrusting her care to a skilled anesthetist.

In our study anesthetic complications, in this study, included one patient with a delayed recovery from general anesthesia for low oxygen saturation because of obesity in group I and one patient with a delayed recovery form general anesthesia in group II of unknown cause.

In a study by *(Burn et al., 2010)* uterine perforation is potentially one of the most serious complications of endometrial ablation procedures. Studies did not report adequately on the exact incidence of uterine perforation, however an incidence close to the incidence of uterine perforation during IUCD insertion was suggested.

In our study one case of uterine perforation was reported in group I during endometrial ablation the patient managed conservatively.

Nausea and vomiting were reported in 23.9% of the patients enrolled in a study by *Vilos et al. 2010* on sixty-six women in the immediate post procedure hours.

In our study, nausea and vomiting in the immediate post-procedure hours were reported in 5 of the 30 patients (16%) in group I. however, it was adequately managed by anti emetics.

In the study by *Grainger et al. 2010,* vaginal discharge was experienced by all the patients and lasted between 10 and 30 days due to shedding to the uterine lining.

The true incidence of post operative infection after endometrial resection or ablation is not known, mainly because infection tend to be diagnosed on clinical grounds following discharge from hospital rather than on positive culture of swabs. *Maher and Hill (2008),* reported an incidence of 2% in their series, which represented an underestimation, as several patients were treated by their practitioners.

In our study, all the patients managed by endometrial oblation (group I) complained of vaginal discharge during the first days following the procedure, and lasted up to 21 days, mostly starting on the second postoperative day. No treatment was prescribed to any of the patients apart from local cleanliness and vaginal douching. Recurrent vaginitis with vaginal discharge was reported by 4 of the 30 patients in group I during the first six months follow-up but could not be attributed as an effect of the procedure.

In our study two patients in group II which managed by abdominal hysterectomy were reported minimal bloody discharge for few days.

In our study to sum, operative complications noted in patients enrolled in our present study were comparable to those reported by other authors. Such complications, did not affect the short term outcome of the procedure. Satisfactory results were reported from those patients developing operative complications during the follow-up period.

Bridgman and Dunn (2013) in a comparative study between ablation procedures and hysterectomy reported that the ablation procedure is associated with lesser morbidity and costs, while preserving the utrus. However, they concluded that although preferred by some women, ablation procedures appear to have added an alternative technique in the treatment of dysfunctional bleeding rather than replacing hysterectomy.

Singer et al. (2004), reviewed his results on 18 patients undergoing the procedure after 34 months follow up, 39% of the patients were hypomenorrheic, 44% were amenorrheic.

In our study, the follow up of the patients for their menstrual pattern was done weekly for the first month and then monthly to complete the one year follow up period. The patient's satisfaction from the procedure was also noted.

Three months after endometrial ablation procedure, 25 patients (86.2%) were amenorrheic, dropped to 24 patients (82.6%) six months after the procedure as that patients developed hypomenorrhea instead.

One patient (3%) noted no change in her menstrual pattern and another patient (3%) reported worsening. They were both counted as failures for the procedure.

In our study the first failure originally had a prior pathological diagnosis of disordered proliferative endometrium and the second had irregular secretary endometrium which could not justify a cause for the failure, however both patients were obese and one was hypertensive. When transvaginal ultrasound scanning was performed for the patient with worsening of the menstrual pattern, posterior wall adenomyosis that was probably missed during the initial evaluation was found and may attribute to the cause of failure. Further more, both patients were obese and one was hypertensive.

Both patients were above forty five years. Futher larger studies are needed to show if there is an actual correlation between failures of the procedure and their age group or their prior medical condition and uterine endometrial pathology, both two patients were subjected to abdominal hysterectomy.

Overall rates of satisfaction from the procedure and relief of symptoms were 90% after 3 months and was maintained after 6 months attributed to the two failed cases.

Conclusions & Recommendations

This study concluded that endometrial ablation, is an effective and very safe method in the treatment of dysfunctional bleeding. Proper selection of the patients is essential. Patient should be well informed that this is not a method of contraception and of the hazards of getting pregnant on the fetus and on herself.

Short – term outcomes are very encouraging, however, success rates may be seen to fall in subsdquent years. Larger scale studies with longer follow-up periods are recommended so the exact success rate of the procedure can be observed.

References

Amso NN, Seth SA, McFraul P et al (2008): Uterine thermal balloon therapy for the treatment of menorrhagia: the first 300 patients from a multicentric study. Br J Obstet Gynaecol; 105: 517-523.

Bradley LD, (2013): Diagnosis of abnormal uterine bleeding with biopsy or hysteroscopy, Menopause: North Am. Menopause Soc. 18: 425-33.

Bridgman SA, Dunn KM (2013): Has endometrial ablation replaced hysterectomy for the treatment of dysfunctional uterine bleeding? National figures. Br. J Obstet Gynecol, Vol. 107, PP. 531-534.

Burn, Atz VL, Lobo R, Gershenson DM et al. (2010): Diagnostic Procedures -Imaging, Endometrial Sampling, Endoscopy: Indications and Contraindications, Complications. In: Katz V.L, Lentz G.M., Lobo R.A. & Gershenson D.M. (eds.) Comprehensive Gynecology, 5th ed, Philadelphia, Mosby-Elsevier, Chapter 11.

Carlson KJ, Miller BA, Fowler FJ (2004): The main women's health study: I. Outcomes of hysterectomy. Obstet Gynecol; 83:556–65.

Grainger David A, Bruce L, Tjaden, DO, Courtney Rowland, and William R, Meyer (2010): Thermal Balloon and Rollerball Ablation to Treat Menorrhagia: Two – Year Results of a Multicenter, Prospective, Randomized, Clinical Trial. J am Assoc Gynecol Laparosc 8 (2): 175-179.

Haynes P, Hodson H, Anderson AB and Turnbull AC (2007): Measurement of menstrual blood loss in patients complaining of menorrhagia. Br. J Obstet. Gynaecology, 84, 7, 3.

Kauntiz AM, Merediths, Pirjo I, Kubba A. (2009): Endometrial ablation in heavy menstrual bleeding: Asystematic review and meta-analysis, obstet Gynecol; 113: 1104-16.

Lewis BV (2004): Guidelines for endometrial ablation. Br J Obstet Gynecol, 101, 470.

Maher PJ and Hill DJ (2008): Endometrial resection for abnormal uterine bleeding. Obstet Gynaecol, 30: 357-365.

Singer A, Almanza R, Gutierrez A, Haber G, et al (2004): Preliminary clinical experience with a thermal balloon endometrial ablation method to treat menorrhagia. Singer A-Obstet Gynecol, May; 83(5 Pt 1): 732-4.

Singh KC,Sengupta R, Agarwal N, Misra K (2010): Thermal endometrial ablation: a simple technique. Acta Obstet Gynecol Scand – 2000 Jan., 79(1): 54-9.

Vancaillie TG. (2009): Electrocoagulation of the endometrium with the ball-end resectoscope. Obstet Gynecol; 74: 425–7.

Vilos GA, Aletebi FA, Eskandar MA (2010): Endometrial thermal balloon ablation with the ThermaChoice system: effect of intra uterine pressure and duration of treatment. Vilos GA – J Am Assoc Gynecol Laparoac-Aug., 7(3): 325-9.