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CLINICAL EFFICACY OF HYSTEROSCOPIC ENDOMETRIAL ABLATION AND FACTORS AFFECTING ITS SUCCESS

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ABSTRACT

In order to assess the efficacy of hysteroscopic endometrial ablation and factors which are important in it's success, a prospective, randomized study was performed in Shiraz university hospitals between Sep. 1995 to Feb. 1998. 50 patients with chief complaints of menorrhagia that were in reproductive age (25-50 years) and had shown no response to medication and D&C underwent endometrial ablation. Thirty-seven patients received pre-op medication and thirteen patients did not. All patients had undergone pre-operative endometrial sampling that had demonstrated benign histology. Eleven patients had submucosal myomas or pedunculated polyps that were resected at the time of hysteroscopic ablation. The minimum follow-up period was 1 year.

Amenorrhea developed in 14% of patients, 50% of patients became hypomenorrheic and 30% eumenorrheic. Menorrhagia did not respond in 3 patients (6%). Hypermenorrhea was detected more commonly in younger patients.

Type of endometrium, depth of the uterine cavity, presence of polyp or myoma and receiving pre-op medication were not important and did not affect patient response.

Overall, the results of this study clearly indicate that endometrial ablation is a simple, effective and acceptable procedure for the management of intractable menorrhagia. The only factor which was important concerning the efficacy of endometrial ablation was patient age.

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Keywords: Abnormal uterine bleeding, Endometrial ablation, Hysteroscopy.

INTRODUCTION

Dysfunctional uterine bleeding is one of the most common conditions for which women attend a gynecological outpatient clinic and one of the most frequent indications for hysterectomy.[1,2] Because of the high cost and morbidity associated with hysterectomy, gynecologists have investigated different techniques to induce an Asherman-like condition in the uterine cavity.[3]

Endometrial ablation has been suggested as a safe and effective alternative to hysterectomy for the treatment of excessive uterine bleeding when there is little or no associated pelvic or uterine abnormality.[5,6]

With direct visualization of the endometrial cavity provided by the hysteroscope, destruction of the endometrium can be readily accomplished with the rollerball,[7,8] cutting loop resection,[9,10] Nd YAG laser,[2,11] and radio frequency induced thermal energy.[12]

The advantages of endometrial ablation include efficacy (i.e., absent or reduced menstrual flow), a transcervical approach, low morbidity, rapid recovery, and safety in high-risk patients.[3] The purpose of our study was to detect fac-

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tors which are important in the efficacy of endometrial ablation.

MATERIALS AND METHODS

Fifty patients with chronic menorrhagia that were in reproductive age (25-50 years) and had shown no response to medication underwent hysteroscopic rollerball or cutting loop endometrial ablation. Each patient had the following criteria:

1- Complete family planning, 2- Age: between 25 to 50 years, 3- No response to medical therapy, 4- No malignant change in previous diagnostic D & C which was done about 1-2 years earlier, 5- No dysplasia or neoplasia of the cervix on Pap smear.

After taking a detailed medical history and physical examination, these patients were randomly allocated to receive either Danazol, M.P.A. or no pre-op medication.

Danazol was used in 19 patients (38%) with a dose of 200 mg TID for 6 weeks, and medroxyprogesterone acetate was prescribed in 18 patients (36%) 30 mg per day for 6 weeks. Other patients (26%) received no pre-op medication.

Endometrial ablation

After checking Hb, BUN and electrolytes, the procedure was performed under general anesthesia. At lithotomy position after prep and drape, the endocervical canal was dilated to permit performance of a diagnostic hysteroscopy and then to the size of a 24 Fr (8 mm) resectoscope. D/W 5% was used as distending media. After inserting the resectoscope rollerball ablation or resection was performed in anterior, posterior and lateral walls, at the cornual regions and in the fundal area, and completed in 15-30 minutes.

Then patient response was followed for at least 6-18 months or more (mean one year) to evaluate menstruation type according to the patient's history in the post-operative course.

The Fisher exact test was used for comparing proportions. A probability value <0.05 was considered statistically significant.

RESULTS

Fifty women with a history of abnormal uterine bleeding (hypermenorrhea) with mean age of 38.5 who underwent endometrial ablation were available for follow-up; Of these, 47 patients had a good result. Three patients who were not satisfied with this type of treatment were significantly younger (about 10 years, $p<0.15$).

As can be seen in Table I, hypomenorrhea is the most common type of menstruation after operation in the study group.

For decreasing the thickness of the endometrium, pre-operative medication with danazol or medroxyprogesterone acetate was started for 37 patients 1-2 months before operation. To see whether pre-op medication is necessary before endometrial ablation, 13 patients received no medication.

Table I. Type of post-op menstruation of the women included in the study.

Type of menstruation	No.	Percent	Cumulative percent
Amenorrheic	7	14%	14%
Hypomenorrheic	25	50%	64%
Eumenorrheic	15	30%	94%
Hypermenorrheic	3	6%	100%

No significant difference was detected between these two groups of patients. Also those patients for whom no pre-op medication was used were satisfied with this type of treatment, and no significant difference was found between them and those who had received pre-op medication ($p\approx0.56$) (Table II).

Also, as shown in Table II, one patient in each type was hypermenorrheic in follow-up and no significant difference was detected between the three groups ($p\approx0.37$).

There was no difference in success rate between patients with a submucosal myoma or polyp which was detected during hysteroscopy and others with no lesion in the endometrial cavity ($p\approx0.53$) (Table II).

Concerning depth of the uterine cavity, one group had a uterine cavity depth <8.5 cm and the other group a depth of 8.5-11 cm. No significant difference was detected in success rate between them (Table II).

Three of these patients (6%) remained hypermenorrheic after the first endometrial ablation, and reablation was done for 2 of them (4%) with a satisfactory result (became hypomenorrheic); one patient subsequently underwent hysterectomy (TAH) after the procedure with a pathologic report of atrophic endometrium.

DISCUSSION

Hysterectomy, the principal surgical treatment for menorrhagia, is not without complications.[1] Although the mortality from hysterectomy due to benign disorders is only 6 per 10,000, short term morbidity may be as high as 42.8 per 100 procedures.[11,13]

For patients, considerable concern exists about the long-term sequelae which may include premature onset of ovarian failure, psychosexual dysfunction and loss of pelvic support, and also a prolonged recovery time which removes women from the productive workforce.[1,11,14] This study shows that endometrial ablation is a modern advance in operative hysteroscopic technique, a minimally invasive approach to the management of menorrhagia, and a good alternative to

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Table II. Results of operation regarding type of pre-op medication, type of endometrium and operation, and depth of uterus.

		Satisfactory result	Percent	Unsatisfactory result	Percent
Type of medication	No medication	13	100%	0%	0%
	Danazol	18	94.7%	1	5.3%
	MPA	16	88.9%	2	11.1%
Type of endometrium	Secretory phase	16	94.1%	1	5.9%
	Proliferative phase	25	96.2%	1	3.8%
	Myoma or polyp	6	85.7%	1	14.3%
Operation	Myomectomy or polypectomy	10	90.9%	1	9.1%
	No myomectomy or polypectomy	37	94.9%	2	5.1%
Type of uterine size	Normal (below 8.5cm)	39	95.1%	2	2.9%
	Bulky (8.5-11 cm)	8	88.8%	1	11.2%
	Total	47	94%	3	6%

hysterectomy.[11,15]

This work supports that endometrial ablation was successful in reducing menstrual bleeding in about 90% of patients.[16] Several studies report success rates from 52% to 98%.[4,13] In our study there was a success rate of 94% in 47 patients. Patients who were not satisfied with this type of treatment were significantly younger.

In two of the largest studies, a 2-7% repeat rate of endometrial ablation was reported.[13,17]

Seven patients (14%) become amenorrheic in the post-op period. Amenorrheic rate in the literature varies between 18-50%.[11]

Pathological results of diagnostic dilatation and curretage were divided into three categories: proliferative, secretory phase and those with endometrial polyp or submucosal myoma. As can be seen in Table II there was no significant difference between the three groups of patients.

Menorrhagia caused by submucous fibroids can be treated hysteroscopically. Submucosal myoma or polyps were commonly encountered in these patients. These can be treated more successfully with hysteroscopic guidance.[3,11,18] The effect of simultaneous resection of submucosal fibroids on the result of ablation has been variously reported.[2,11,18] The "Oxford" series found a success rate of 41% when fibromas were present compared with 65% when not, but in our study no significant difference was found between the two groups.[11]

Determination of the depth of the uterine cavity is essential because patients with uterine cavities greater than 12 cm in length can be expected to show less than optimal results, because of the large endometrial surface and the increased risk of complications. In this study as shown in Table II all patients had a uterine depth below 11 cm. No differences have been observed regarding uterine size in short term results.

Ideally, the endometrium should be as thin as possible for endometrial ablation. Therefore some type of hormonal preparation with danazol, M.P.A. or GnRH is most helpful before operation to thin the endometrium and make it atrophic. Danazol or M.P.A. are both effective treatment for thinning the endometrium before ablation.[19] As it can be seen in Table II there was no significant difference of success rates between those who received pre-op medication and those who didn't. Although some reports showed that pre-op medication before ablation was accompanied with higher success rates (62-78%),[1,2,2] that endometrial ablation without endometrial suppression is successful in controlling menorrhagia in 78% of patients.[17]

Complications are related principally to operator experience. In most large series with either endometrial ablation or resection, the incidence of complications has been low.[4,21]

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The potential risks for diagnostic hysteroscopy and ablation include perforation, infection, excessive bleeding, and complications related to the distending media.[11,19] Reported perforation rates vary from 1-3%, fluid overload between 1-5%, significant primary hemorrhage during resection is surprisingly rare and between 0.4 to 5%, and an infection rate of 2% was reported.[11] In our study no complication was reported other than mild cramping which is usually relieved with mild analgesics.

As it was seen, endometrial ablation is a safe, effective, and acceptable procedure for the management of intractable menorrhagia. With increasing experience, medication could be eliminated before surgery, and still have a good result.

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