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ORIGINAL ARTICLE

Hysteroscopic evaluation of post abortive infertile females

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Abstract *Objectives:* To study the hysteroscopic findings in cases of secondary infertility following abortion compared to cases with primary infertility. *Methods:* This was a case control study of 200 selected infertile women undergoing diagnostic hysteroscopy as a part of their infertility work-up. These 200 patient were classified into the following: **A** – 100 patients in whom abortion has occurred whether evacuation and curettage (E.&C.) was done or not and B – 100 patients complaining of primary infertility. *Results:* Hysteroscopy was normal in about 44% of patients group and 45% in control group. Observed abnormalities were septate uterus in 17 cases, intrauterine synechiae in 30 cases, submucus myoma in 10 cases, deformed cavity in 5 cases and endometrial polyp in 35 cases. Endometrial abnormalities (fibrosis, inflammation or atrophy) were observed in 7 patients. No significance was found regarding the total number of intrauterine pathologies when comparing the groups of primary versus secondary infertility. Patients group showed higher prevalence of Intra Uterine Septum and Intra Uterine Adhesions. Control group showed higher prevalence of endometrial polyp, submucous myoma and Endometritis. Other findings showed nearly equal prevalence in the two groups. *Conclusion:* There is a direct correlation between the number of abortions, number of evacuations (E.&C.) and degree of intra-uterine adhesion, and an increase in the number of abortions is associated with an increase in the degree of intra-uterine adhesions. However, in this study, there was no significant difference between degree of intra-uterine adhesions in the two groups (patient group and control group). Our data are an additional argument to suggest hysteroscopy as part of investigation in infertile woman. Routine diagnostic hysteroscopy should be part of an infertility work-up in primary and secondary infertility.

1. Introduction

Hysteroscopy is the process of viewing and operating in the endometrial cavity from a transcervical approach. The basic hysteroscopy is a long, narrow telescope connected to a light source to illuminate the area to be visualized. With a patient in the lithotomy position, the cervix is visualized by placing a speculum in the vagina. The distal end of the telescope is

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passed into a dilated cervical canal, and, under direct visualization, the instrument is advanced into the uterine cavity (1).

Hysteroscopy is a minimally invasive intervention that can be used to diagnose and treat many intrauterine and endocervical problems. Hysteroscopy is useful in a number of uterine conditions as Asherman's syndrome, endometrial polyp, gynecologic bleeding; endometrial ablation, myomectomy for uterine fibroids, congenital uterine malformations (also known as Mullerian malformations), septum, evacuation of retained products of conception in selected cases and removal of embedded IUDs (2). Given their safety and efficacy, diagnostic hysteroscopy and operative hysteroscopy have become standards in gynecological practice (3).

Hysteroscopy is not part of the routine work-up for infertility, but when compared with hysterosalpingography, hysteroscopy is equivalent for evaluating the uterine cavity, and it increases accuracy in diagnosing the cause of intrauterine filling defects (4).

In unexplained infertility, hysteroscopy may be performed simultaneously with laparoscopy to evaluate the uterine cavity and cervix (5).

The pregnancy rate per cycle was 37.5% in patients with normal hysteroscopic findings as compared to 8.3% for patients with abnormal hysteroscopic findings (6).

Intracavitary lesions are implicated as causes of infertility, and their removal may increase fertility. However, literature supporting the significance of this association is scant (7,8).

Overall, pregnancy rates of 50–78% in previously infertile women have been reported after hysteroscopic polypectomy (9).

The incidence of myomas in women without another obvious etiology for infertility is small, estimated to be 1–2.4% (10).

The effect of myomas on reproduction is not definitive but it is generally accepted that fibroids causing distortion of the endometrial cavity may adversely influence fertility. Location, size of myomas, and coexisting fertility diagnoses are believed to be major considerations when determining management options (11).

Surgical management with hysteroscopic myomectomy has been reported to yield pregnancy rates of 16.7–76.9% (mean of 45%) in infertile women (10).

Diagnostic hysteroscopy is indicated in cases with recurrent pregnancy loss not only to evaluate the presence of congenital uterine anomalies, intrauterine adhesions or submucous myomas but also to determine the possibilities for treatment with transcervical endosurgery (12).

Uterine septum is the most common congenital anomaly of the female reproductive tract with an incidence of 2–3% in the general population (13). Septate uterus is associated with poor reproductive performance, including high incidence of first and second trimester abortion, preterm delivery, as well as abnormal presentations and increased cesarean section rates (14). Simple outpatient diagnostic hysteroscopy is recommended to diagnose uterine septa and to decide when and how to treat uterine septa in relation to the type of malformation (15).

Hysteroscopy is the gold standard used to diagnose and treat these adhesions. Benefits include visually directed lysis. Filmy adhesions are often lysed by distention alone, whereas the dense adhesions often require cutting or excision with blunt, sharp, electrocautery, or laser techniques (16). Asherman's syndrome (AS), occurs most frequently after a D&C is performed on a recently pregnant uterus, following a missed or incomplete miscarriage, birth, or elective termination (abortion) to remove retained products of conception. As the same procedure is used in all three situations, AS can result in all of the above circumstances (17).

It affects women of all races and ages as there is no underlying predisposition or genetic basis to its development. According to a study on 1900 patients with AS, over 90% of the cases occurred following pregnancy-related curettage (18).

Depending on the degree of severity, AS may result in infertility, repeated miscarriages, pain from trapped blood, and future obstetric complications (17).

There is evidence that left untreated, the obstruction of menstrual flow resulting from adhesions that can lead to endometriosis (19,20).

The American Fertility Society developed an objective scoring system for classification of intrauterine adhesions that correlated the menstrual history with hysteroscopic and hysterosalpingographic findings shown in Table 1 (21).

2. Materials and methods

This is a case control study which was done in Bab El Shaaria maternity hospital, Faculty of medicine, Al-Azhar University in the time between 1-6-2013 and 1-12-2014 which was conducted to evaluate the different hysteroscopic findings in 200 infertile patients with age ranging from 18 to 38 years. These 200 patients were classified into the following:

1. *Study group:* 100 patients in whom abortion has occurred whether evacuation and curettage was done or not.
2. *Control group:* 100 patients complaining of primary infertility.

These patients were admitted to Bab El-Shaaria maternity hospital from the outpatient clinic immediately postmenstrual (for those with regular menstruation) or after negative B-HCG (for those who are complaining of amenorrhea or irregular menstruation or irregular uterine bleeding) and selected according to the following inclusion and exclusion criteria.

Inclusion criteria:

This study was done on the patient with the following criteria:

1. Age between 18 and 38 years.
2. Patients with history of first trimester abortion (whether E&C was done or not) with delayed conception for at least one year after abortion (100 patients).

Table 1 The American fertility Society Classification of intrauterine adhesions, 1988.

Extent of cavity involved	< 1/3 1	1/3–2/3 2	> 2/3 4
Types of adhesions	Filmy 1	Filmy and dense 2	Dense 4
Menstrual pattern	Normal 0	Hypomenorrhea 2	Amenorrhea 4
Prognostic classification		HSG score	Hysteroscopy score
Stage I		(Mild)	1–4
Stage II		(Moderate)	5–8
Stage III		(Severe)	9–12