Hysteroscopic Evaluation in Infertile Women with IVF Failure

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OBJECTİVE: The aim of this study was to investigate the hysteroscopic evaluation in infertil women with IVF failure.
STUDY DESIGN: The results of 343 infertil women with IVF failure that were performed hysteroscopy were evaluated.
RESULT: In a total of 343 women 238 (69%) were found to have normal endometrial cavities. In 31% of subjects, a pathology was observed; 72% of these women had endometrial polyps, 17% had uterine septum, 7% had leiomyomas and 4% had intrauterine synechia on hysteroscopic examination.
CONCLUSION: The uterin pathology was observed in %31 of the infertile women. Endometrial polyps were most common uterine pathology in our study. Our recommendation is to plan hysteroscopy in infertil women with IVF failure.
(Gynecol Obstet Reprod Med 2007;13:1 32-33)

Key Words: Infertility, Hysteroscopy, IVF failure

Implantation failure after ET (Embryo transfer) still has been one of the main problems for women undergoing IVF (In vitro Fertilization). The causes for implantation failure may be reduced endometrial receptivity, embryonic defects or multifactorial causes. IVF success is dependent on the cooperation of embryo and endometrium. Structural abnormalities of the uterus and endometrial cavity may affect reproductive outcome adversely by interfering with successful implantation during IVF.[1]

Endometrial abnormalities (including hyperplasia, polyps and synechiae) were found in 18% of women with at least three previous unexplained IVF failures.[2] It is clear that submucosal or intramural fibroids distorting the endometrial cavity adversely affect embryo implantation, and myomectomy.[3] It has been reported that women with a subseptate uterus have a higher incidence of first trimester loss.[4] Data from post-abortion hysteroscopies have shown that the incidence of intrauterine adhesions in patients after first abortion was 18.8%.5 Therefore, the evaluation of the shape and regularity of the uterine cavity is important a procedure in patients with IVF failure.

Methods like transvaginal sonography, hysterosalpingography, hydrosonography and hysteroscopy have been used for the evaluation of the uterine cavity in infertile patients. Hysteroscopy allows direct visualisation of the uterine cavity where immediate resection of a suspected lesion is possible. The abnormalities detected using hysteroscopy were intrauterine adhesions, submucous fibroids, endometrial polyps and uterine septum. Hysteroscopy has been considered as the gold standard method for detection of uterine cavity pathologies.6

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Submitted for Publication: 03.03.2007
Accepted for Publication: 05.03.2007

Material and Methods

The study group consisted of 343 infertil women with IVF failure. Clinical pregnancy was defined as the presence of intrauterine gestational sac at transvaginal ultrasonography. If there is no clinical pregnancy after ET, it is accepted as IVF failure. Women were between 18–45 years old. All office hysteroscopies were performed in the early proliferative phase using saline distention medium and a 5.0 mm continuous flow office hysteroscope (Karl Storz GmbH and Co., Tuttlingen, Germany) without cervical dilatation. Semi-rigid operative hysteroscopic instruments such as scissors, grasping forceps, and biopsy forceps were used for the treatment of intrauterine lesions. The procedures were carried out as an outpatient basis and under general anesthesia. Women were discharged 60 to 90 minutes after the procedure and no complications occured.

Results

In a total of 343 women 238 (69%) were found to have normal endometrial cavities. In 31% of subjects , a pathology was observed; 72% of these women had endometrial polyps, 17% had uterine septum, 7% had leiomyomas and 4% had intrauterine synechia on hysteroscopic examination.(Table I Uterine pathologies detected after hysteroscopy)

Table I. Uterine pathologies detected after hysteroscopy

Uterine pathology	Patient (n)
Endometrial polyp	76 (%72)
Subseptum	18 (%17)
Myoma uteri	7 (%7)
Synechiae	4 (%4)
Total	105 (%100)

Discussion

Failure of conception despite the repeated transfer of apparently good quality embryos is an important clinical problem in infertile women. Uterine abnormalities may affect reproductive outcome adversely by interfering with implantation.[1] The prevalance and impact on reproduction of uterine pathologies in the general population have not been clearly established. In this study, in 31% of subjects a pathology was observed; 72% of these women had endometrial polyps, 17% had uterine septum, 7% had leiomyomas and 4% had intrauterine synechia on hysteroscopic examination.

Elter et al have screened for an intrauterine pathology before the IVF cycle by using office hysteroscopy in infertile women. In 16% of subjects, a pathology was observed; 39% of these women had endometrial polyps, 32% had endometrial adhesions, 18% had uterine septum and 11% had leiomyomas. Twenty-six percent of women with IVF failure had an endometrial pathology, and 12% of those without an IVF failure had abnormal cavity. They showed that previous IVF failure is the only independent predictor for an intrauterine pathology in women undergoing IVF, and therefore, these women seem to be appropriate candidates for screening hysteroscopy before an IVF attempt.[7]

There is still no consensus regarding the management of patients diagnosed with endometrial polyp in IVF cycles. Isikoglu et al investigated that the impact of endometrial polyp-like images on the outcome of ICSI cycles. They found that polyp-like images <1.5 cm which are encountered during ovarian stimulation do not have any negative effects on pregnancy and implantation rates in ICSI cycles. Cancellation of the embryo transfer is unnecessary and completion of the cycle should be the appropriate approach for these cases.[8]

Batioglu et al treated six patients with endometrial polyps (<2 cm) by hysteroscopic polypectomy preceding oocyte aspiration and in three cases pregnancy was achieved. Their trial suggests the possibility that hysteroscopic polypectomy during COH may be a harmless procedure, but their series is too small to be conclusive.[9]

Dicker et al showed that in women with previously normal hysteroscopy, the repeat hysteroscopy demonstrated abnormalities of 18.2% after three or more consecutive failed IVF-embryo transfer cycles. In that study endometrial polyp was one of the pathologies encountered.[10]

Timing of hysteroscopic evaluation in infertil women is controversial. Screening the uterus before IVF treatment has been recommended, and the preferred method for evaluating the uterus in most studies has been hysteroscopy.[11,12] Nawroth suggest that performing screening hysteroscopy to minimize any negative anatomical intrauterine influence on IVF outcome before including patients in an IVF programme.[13] On the other hand, hysteroscopy has been suggested to be performed in women with repeated IVF failures.[14]

The most common structual abnormality we have seen was uterin polyps, as were the other reports.[7,10] In our study the endometrial polyps were below 1.5 cm diameter, so the reason of the IVF failure may not be associated to this point.[8] Larger studies are needed to further clarify the effects of uterine pathologies in infertile women with IVF failure.

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