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THE EFFICACY OF HYSTEROSCOPIC ADHESIOLYSIS IN ASHERMAN'S SYNDROME

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ABSTRACT

To determine the prevalence of Asherman's syndrome in the south of Iran and assess the safety and efficacy of hysteroscopic adhesiolysis in restoration of menstrual function and fertility, a prospective study was done from 1997 to 1999. Among 2300 couples with infertility referring to the infertility clinic of a Shiraz University hospital, 30 patients were proven to have Asherman's syndrome by diagnostic hysterosalpingography (HSG) and then hysteroscopy. The prevalence of this syndrome was 1.3%. Hysteroscopic adhesiolysis was performed in all 30 patients. Adhesion reformation postoperatively was absent in stage 1 patients, 15% in stage II and 66% in stage III. Normal menstrual flow was restored in all patients (100%), and 19 patients (63.3%) conceived after surgery that resulted in term infants in 15 patients (50%).

Hysteroscopic adhesiolysis is a safe and effective operation for restoring the normal menstrual pattern and fertility, and the severity of the adhesions appear to correlate best with the reproductive outcome.

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INTRODUCTION

Asherman's syndrome is the presence of intrauterine scar tissue that interferes with normal endometrial growth and shedding. In women with this condition intrauterine scar tissue usually develops after vigorous curettage of infected endometrium early in pregnancy. Other rare causes of Asherman's syndrome include infection (genital TB), myomectomy, metroplasty and curettage of a non-pregnant uterus.[1] The presenting symptoms might include hypomenorrhea, amenorrhea, or reproductive compromise characteraized by failure of conception, repeated abortions or premature deliveries.[2,3] The typical treatment of Asherman's syndrome involves surgical lysis of the intrauterine adhesions (with hysteroscopy) followed by long-term stimulation of the endometrium with estrogen.[4] The purpose of this study was to find the prevalence of this syndrome in the south of Iran and determine the efficacy of hysteroscopic adhesiolysis in improving menstrual function and restoring fertility in patients with varying degrees of intrauterine adhesions.

MATERIAL AND METHODS

Between 1997 to 1999, 2300 infertile couples were referred to the infertility clinic. During infertility workup 30 patients were diagnosed to have intrauterine adhesions (Asherman's syndrome) by hysterosalpingography (HSC) and confirmed by hysteroscopy. The mean age of patients was 30.4 years (range 21 to 37 years). 24 out of 30 patients complained of secondary and 6 of primary infertility. There was a history of pelvic inflammatory disease (PID) in 10 patients and curettage in 17 patients and no specific infection or operation in 3 patients. 7 patients had hypomenorrhea and 2 amenorrhea. Intrauterine synechiae were classified according to the ASRM classification (American Society of Reproductive Medicine). In this method intrauterine adhesions were classified according to the extent of cavity involved, type of adhesions (filmy, filmy-dense and dense) and menstrual pattern to stage I (mild), stage II (moderate)

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and stage III (severe).[5] Hysteroscopy was performed with DW 5% used as the distending medium in all patients. After diagnosis of Asherman's syndrome endometrial biopsy was done in all patients to rule out genital tuberculosis; none of them appeared to have TB. For treatment, hysteroscopic adhesiolysis was performed under vision of laparoscopy in all patients. Adhesions were lysed with hysteroscopic scissors. Adhesiolysis was continued until a normal view of the endometrial cavity was noted and tubal ostia were visualized bilaterally. After completion of the procedure, an IUD was inserted into the uterine cavity. All patients received conjugated estrogen 2.5-5 mg daily for one month. Hysterosalpingography was performed in all patients one month after operation. The follow up period after operation was one year.

RESULTS

The prevalence of Asherman's syndrome in infertile couples was 1.3% (30/2300), mostly due to post D&C trauma. There was no genital TB in our series. Out of 30 patients with intrauterine adhesions, 11 were in stage I, 13 in stage II, and 6 in stage III. The only complication encountered during operation was a small perforation of the fundus in 3 patients; one of them was treated with laparoscopic electrocoagulation and the other two were just observed. Both of the 2 patients with amenorrhea reported normal cycles after adhesiolysis. All patients with hypomenorrhea reported increased menstrual flow after surgery. The extent of adhesion reformation observed at postoperative HSG is given in Table I. Adhesion reformation was absent in patients with initial stage I (mild) and was 15% (2/13) in stage II (moderate); however, adhesions reformed in about 66% of patients with initial stage III (severe). Of these, about 33% were mild and 33% were moderate. 19 patients with infertility conceived after surgery (63.3%). 15 Pregnancies (50%) resulted in term infants and 2 (6.6%) in preterm infants. One of the two preterm infant deliveries occurred in a patient in stage II and the other one in stage III.

One of the pregnant patients who was in stage one had an abortion. Nine of 11 patients (80%) with stage I adhesions, 8 of 13 patients (60%) with stage II and 2 of 6 patients (33%) with stage III adhesions conceived after surgery during a follow up of twelve months.

DISCUSSION

Because the true pathophysiological process that leads to intrauterine adhesions is still obscure, there is no known adequate method for preventing its formation. Thus the accepted approach is aimed at lysing the adhesions that are believed to be the cause of infertility and pregnancy wastage, which are the main undesirable consequences of this syndrome. Satisfactory results were achieved from hysteroscopic adhesiolysis. All of the patients with amenorrhea or hypomenorrhea reported improvement after surgery. Significant intrauterine adhesion reformation as assessed by hysterosalpingography was noted only in patients with initially severe adhesions. Adhesion reformation rates were 15% and 66% in patients with initially moderate and severe adhesions respectively. Pregnancy rates were 63.3% after hysteroscopic adhesiolysis. It is noticeable that 2 infertile patients with initially severe adhesions conceived after the procedure.

The operation was safe. The only complication was uterine perforation necessitating laparoscopic electrocoagulation of the bleeding site in one patient. In other studies results of surgical therapy are excellent in terms of restoration of normal menstrual function. The reproductive outcome appeared to be dependent on the severity of the adhesions, and live birth rates range between 25% and 50%.[1]

In other studies pregnancy rates up to 80 percent have been reported in patients with mild to moderate disease.[6] There are a paucity of data on reproduction after hysteroscopic adhesiolysis in patients with infertility. In 16 infertile patients Pabuccu and Urnan reported pregnancy rates of 62% with 37.5% full term pregnancy.[7] In the series of Valle and Sciarra the reproductive outcome correlated with the type of adhesions and extent of uterine cavity occlusion, ranging from a term pregnancy rate of 81.3% in patients with mild disease to 31.9% in patients with severe disease.[8] In 51 women with only minimal and moderate intrauterine adhesions Ismajovich et al.[9] reported a pregnancy rate of 90% with lysis of adhesions and dilatation of the cervix, and in 85% of these pregnancies a viable infant was delivered and in 15 % terminated in abortion. Bellingham in a series of 17 patients with significant intrauterine synechiae performed the procedure under ultrasound control and 8 of 10 desiring pregnancy achieved live births and in 11 of 13

Table I. Adhesion-reformation and conception rate post-adhesiolysis according to stage.

Stage	No.	Adhesion Reformation	Conception Rate
I	11	0 (0%)	9 (80%)
II	13	2 (15%)	8 (60%)
III	6	4 (66%)	2 (33%)
Total	30	6	19 (63.3%)

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patients normal menstruation was restored.[10] In other study Valle reported 28 term pregnancies in 61 infertile women.[11] March et al.[12] reported 98% normal spontaneous menses and conception in 7 of 10 patients. In Fena and colleague's study intrauterine pregnancy rates were 85.7% and in 64 patients with amenorrhea or hypomenorrhea 54 (84.4%) had regular menstruation.[13] Sugimato et al.[14] without classifying the extent of intrauterine adhesions also reported a low term pregnancy rate of 18% in 141 infertile women after hysteroscopic adhesiolysis. In our series the term pregnancy rate was 50% in infertile patients with intrauterine adhesions. Although genital TB is a cause of intrauterine adhesion, there was no case in our study. Our better results may be attributed to our patient population, most of them had mild to moderate adhesions initially. We believe that hysteroscopic lysis of intrauterine adhesions is a safe and effective procedure for restoring the normal menstrual pattern and improving reproductive outcome in women with intrauterine adhesions and the pregnancy rate correlates with the severity of the initial adhesions.

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