

Intrauterine Synechiae

İNTRAMTERİN ŞİNEŞİLER

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Intrauterine scarring first appeared in the medical literature in 1894, when Fritsch reported a 25 year old woman who developed amenorrhea following a curettage performed postpartum (1). In 1946, Asherman described the condition that now bears his name. He described a syndrome of intrauterine adhesion formation with scarring and obliteration of the potential space of the uterine cavity resulting clinically in hypomenorrhea or amenorrhea (2,3).

Asherman's syndrome or endometrial sclerosis, occurs when the intrauterine adhesions form and obliterate, either partially or completely, the uterine cavity, cervical canal or one or both tubal ostia (4,5). The incidence of Intrauterine adhesions (IUA) varies widely in patients complaining of infertility.

There is no general agreement as to its prevalence or its impact upon infertility. This uncertainty is multifactorial; the use of induced abortion throughout the world, the high incidence of genital tuberculosis in developing countries (especially in our country), the criteria used to evaluate the infertile couple. The major predisposing factors are infections, postpartum or postabortal curettages, septic abortions, tuberculosis endometritis (6,7), uterine schistosomiasis (6), chemical trauma, pelvic irradiation, following myomectomy and metroplasty (Table 1). Adhesion formation should be suspected in any patient who has undergone curettage following pregnancy (8), induced abortion, or any uterine surgery (cesarian section).

Intrauterine adhesions are more commonly seen in patients complaining of secondary infertility rather than in those complaining of primary infertility (9). Secondary amenorrhea, hypomenorrhea, oligomenorrhea and/or dysmenorrhea and have normal fertility and reproductive performance. This inconsistent clinical pre-

sentation is the result of the marked variability of both extent and the location of the synechiae.

Prior to the introduction of hysteroscopy, the diagnosis of IUA depended on patients history, physical findings and HSG. If curettage is performed between the 2nd - 4th weeks following delivery or if the curettage is performed because of a missed abortion, the risk of IUA is high. If the patient is amenorreic and has some cyclic changes suggesting normal ovarian function, the diagnosis of IUA's is more likely. The lesions may be found in any portion of the uterus and may involve the entire uterine cavity or a small area. Synechiae located in the cornua may result in tubal occlusion. Stenosis or atresia of the internal cervical os may cause partial or complete obstruction to menstrual flow and severe dysmenorrhea. Diminished menstruum may be due to the presence of an "endometrial inhibiting factor" in the cavity which also predisposes to the adhesion formation (11). Since endometriosis is more likely in these patients, fertility may be severely hampered (12). If embryonal implantation occurs, ongoing development of the placenta may be impaired and results in first or second trimester abortion. Other obstetric complications may occur, including premature delivery, malpresentation, premature separation of placenta, placenta previa and placenta accreta (13,14).

CLASSIFICATION OF INTRAUTERINE ADHESIONS

The grade of severity of intrauterine synechiae has a positive correlation with menstrual dysfunction, infertility and complication of pregnancy. However, minor adhesions that partially occludes the internal cervical os may induce severe dysmenorrhea. The classification of IUA's is useful for prognosis and for the comparison of the treatment results. Toaff (15) has proposed a classified system base on the extent of the cavity obliteration, that categorizes the condition into four grades (Table 2).

Sugimoto (16) described three types of intrauterine adhesions according to their location, and the component inside the adhesion macroscopically, a classification system more accepted than that of Toaff's classifications system (Table 3).

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Table 1. Predisposing factors for IUA
Tablo 1, IUA için predispozan faktörler

Postabortal or postpuerperal sharp curettage
Septic abortion
Puerperal infections
Genital tuberculosis
Uterine schistosomiasis
Chemical trauma
Uterine surgery (myomectomy, metroplasty, cesarian section)
Pelvic irradiation

Table 2. Classification of IUA*
Tablo 2, IUA'nın sınıflaması

Grade I: A single, small filling defects occupying up to about one-tenth of the uterine area
Grade II: A single, medium size filling defect occupying up to one-fifth of the uterine area, or several smaller defects to the same degree of involvement
Grade III: A single, large or several smaller filling defects involving up to about one-third of the uterine cavity, which is deformed or asymmetrical because of marginal adhesions
Grade IV: Large size filling defects occupying most of a severely deformed uterine cavity

Table 3. Classification of SUA*
Tablo 3, IUA'nın sınıflaması

- a. According to the location:
1. Central adhesions: Bridge-like connections between the uterine walls
 2. Marginal adhesions: Ledge-like projection from the side wall of the uterus
 3. Multiple adhesions: Combination of central and marginal adhesions
- b. According to the tissue component macroscopically:
1. Endometrial adhesions: Adhesions are similar in appearance to the surrounding endometrium
 2. Myofibrous adhesions: Surface is covered and provided with many glandular ostia
 3. Connective adhesions: Adhesion cicatrised firmly with connective tissue

DIAGNOSIS

Synechias are scars that have been formed as part of the healing process in the potential space of the uterine cavity when the traumatised uterine walls are held in apposition. The history may suggest the diagnosis, particularly since the otherwise unusual condition hypomenorrhoea is common. There is frequently a difficulty in sounding the uterine cavity. A "gritty sensation" may be detected when the biopsy is attempted. The patient may fail to experience withdrawal bleeding after the treatment of estrogen-progesterone preparations (17). More often the diagnosis is made at hysterosalpingography.

Synechiae are frequently listed along polyps, myomas and the uterine septum as "filling defects" within the cavity as seen at hysterosalpingography. However, the appearance of the scars are characteristic. Synechiae are stellate, irregular, immobile and frequently homogenous if the contrast medium enters into the pockets of no or little adherence. The apparent filling defect at hysterosalpingography is not due to a mass lesion within the cavity, but rather reflects a constant area of apposition of the anterior and the posterior walls of the uterus with failure of distention of the cavity. Neoplastic filling defects of the uterine cavity are characteristically round with smooth edges and homogenous in density (12).

Although the diagnosis of IUA's is usually established at hysterosalpingography, hysteroscopy is necessary for confirmation and further evaluation of the extent of the pathology (18). The apparent lack of correlation sometimes occurs between the two procedures as far as the techniques are considered. The technique of the hysteroscopy introduces a viscous medium under pressure, resulting in distention of the uterine cavity and frequently the disruption of some of the adhesions. Synechiae that appear large and well defined at hysterosalpingography may present themselves as filmy, band-like adhesions at the hysteroscopy because of the distention produced during the procedure of the hysteroscopy. Perfect correlation between these two procedures therefore should not be suspected. Furthermore, synechiae observed at hysterosalpingography may not be seen at hysteroscopy, which is not meant a false-positive radiographic finding (19). Hysteroscopy may show, unusually, radiotransparent cartilagenous metaplasia and vascular abnormalities which can not be seen at hysterosalpingography (20,21).

TREATMENT

The goal of the therapy include four steps: (1) restoration of the normal anatomy, (2) prevention of readhesions by inserting an IUD. (3) endometrial proliferation with estrogen therapy, and (4) control of the results after the removal of the IUD.

The essential components of the therapy are the lysis of adhesions at hysteroscopy and office blunt curettages, the placement of some form of device to keep the uterine walls apart and administration of estrogen preparations in order to render the endometrial tissue proliferative and differentiated.

Minor adhesions may be lysed with office D/C procedures (22). Concerning the operative technique, panoramic or contract hysteroscopes, which enable the surgeon better vision of the cavity, are preferred in the diagnosis and the treatment of

IUA's (23). Both the electrical current of the resectoscope and the energy of neodymium-aluminium-garnet laser have been effective in the lysis of IUA's (24-26). Generally, two hysteroscopic lysis methods are described: the rupture of the adhesions by simply applying pressure on them with the tip of the hysteroscope, or the cutting of the adhesions by means of a scissors, electrocurety or laser beam. Hysteroscopy directed lysis of IUA's by cutting, cautery or laser yields better results than blind dilatation & curettages (6,24,26). The treatment of the central adhesions, regardless of the techniques used, is very successful. The contract hysteroscope is a convenient instrument for this procedure. For more extensive central adhesions, the prognosis is a convenient instrument for this procedure. For more extensive central adhesions, the prognosis is good when the tubal ostia remain visible (27). Marginal adhesions are usually crescent shaped and difficult to resect. Sharp dissection with scissors are not recommended. The recommended devices for the intrauterine placement consist of the intrauterine devices (IUD's) of several types, an inflated Foley catheter balloon and a form made of distensible material molded to fit to the uterine cavity. Inert devices are preferred to copper-bearing IUD's, because they have a large surface area and cause less intrauterine reaction. The Foley catheter can be left in place for up to 2 weeks, but these patients may have discomfort and require hospitalisation. The advantages of the use of the IUD's include its capacity for retention for a long time, its acceptability for the patients and the lysis of the adhesions that occur at its removal. IUD's can be left within the uterine cavity and are removed 4 weeks later. Postoperative HSG is usually performed 4 weeks following the lysis procedure in the next proliferative phase of the menstrual cycle after IUD removal and discontinuation of estrogens, which results in a 'withdrawal' bleeding. It is unusual to find recurrent adhesion formation, which is hoped to be less than the initial procedure (18,19,26).

DISCUSSION

Avoiding the use of sharp curettages and the use of blunt curettages in puerperal, postabortal evacuations and the prevention of puerperal infections are important issues for the prevention of adhesion formation (28). Results of the treatment is excellent in terms of the symptomatic relief and the correction of the menstrual disorders. Most women regain normal menstruation (28). About half of women treated with transcervical blind approaches achieved conception among which half or them carry a term pregnancy (25,26,27). In contrast, hysteroscopic treatment can achieve a conception rate of 75% (25,28). Minimal or filmy adhesions rarely impair the fertility. The type of adhesion

and the extent of the cavity involved and the presence of the other associated factors leading to poor fertility are important criteria for the success of the reproductive outcome (9,15,16,25,26,27). According to one study, term pregnancy rates with hysteroscopic approach vary from 31.9% to 81.3 in patients with severe intrauterine adhesions and mild adhesions, respectively (29). The restoration of menstruation and the endometrial cavity after the lysis of IUA's do not necessarily imply normal fertility. The ensuing pregnancy may be a subject to a number of obstetrical complications (13,14,27) including the spontaneous rupture of the uterus during pregnancy (30)

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