

## **SUMMERY**

The term 'unexplained subfertility' applies to the situation in which a couple, despite serious attempts, does not achieve pregnancy, while according to current knowledge no physiological or anatomical abnormalities can be found.

Unexplained infertility has an incidence of 10-20% in all infertile couples.

Possible causes of unexplained infertility are sperm dysfunction, ovulatory dysfunction, fertilization failure, impairment of endometrial perfusion, implantation failure, occult infection, subclinical endometriosis, subclinical pregnancy loss, immunological problems and psychological factors.

Possible diagnostic tests for unexplained infertility are semen analysis, post coital test, hysterosalpingogram, evaluation of luteal phase, hormonal profiles, transvaginal ultrasound, diagnostic laparoscopy, transvaginal hydrolaparoscopy, assessment of endometrial perfusion and fimbrio-ovarian accessibility test.

Embryo implantation into the uterus is a critical step in the establishment of pregnancy. Failure of the human embryo to implant into the uterine wall during the early stages of pregnancy is a major cause of infertility.

In some cases of infertility or recurrent pregnancy loss, implantation failure is due to a lack of expression of specific critical participating proteins such as cell adhesion molecules.

Patients with repeated implantation failure represent a subgroup of couples who suffer from unexplained infertility.

Autoimmune processes and mechanisms are considered as contributing factors in some cases of unexplained infertility in both men and women, particularly when they are directed to antigens expressed in tissues and cells of the reproductive tract and genital secretion. Presence of antibodies to testicular antigens and sperm in men, or antibodies to zona pellucida and endometrial antigens in women, are considered possible causes of infertility in a fraction of patients with unexplained infertility.

Laparoscopy and hysteroscopy play very important role as diagnostic tools in the infertility women. Combined diagnostic simultaneous laparoscopy and hysteroscopy should be performed in all infertile patients before the treatment.

Laparoscopic treatment enhances the chance of spontaneous conception.

If a therapeutic approach is indicated, hysteroscopic surgery is widely accepted as the most effective.

The chances of conceiving spontaneously must not be ignored when defining an infertility treatment, especially in cases of unexplained infertility.

Treatment of unexplained infertility is empiric and different regimens or protocols have been used so far. They are all designed, one way or another, to increase gamete density, bringing together more than the usual numbers of eggs and sperm in a timely way. Recommended treatments for unexplained infertility have included expectant management IUI, ovarian stimulation (clomiphenc citrate, exogenous gonadotropins) to achieve superovulation of more than a single ovum, superovulation combined with IUI, and ART.

In case of unexplained infertility, the overall likelihood of successful pregnancy with treatment is nearly 50 percent.