



# THE ROLE OF NEW TECHNOLOGIES IN TREATMENT OF UTERINE TUBE DISEASES

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## EVOLUTION OF REPRODUCTIVE SURGERY

**The purpose:** to show the basic stages of formation, modern condition, and perspective directions of reproductive surgery development in gynecology.

**Object and methods.** This report is based on the data of clinical investigations of more than 350 women with tubal – peritoneal infertility. The results of macro-, microsurgical and laparoscopic methods of Fallopian tubes plastics were estimated by means of comparative analysis. The results of transcervical recanalization of Fallopian tubes in case of their proximal occlusion were also evaluated. An addition, we analysed the experimental data of animal investigations (rabbits) and studied available scientific articles.

**Results.** A reproductive surgery (RS) can be divided into two conditional directions: 1) the surgery of woman's reproductive organs is an operative treatment of different diseases of reproductive system and 2) surgery of infertility. The purpose of RS is preservation and restoration of reproductive system integrality with preservation (restoration) of the main specific functions – fertility, hormonal and sexual functions, and also menstrual cycle. Based on the opinion that fertility – is not an illness, but abnormal condition determined by the different diseases, when the pregnancy becomes impossible, the SR is a surgical treatment of illnesses resulted in the destruction of reproductive function and fertility.

The frequency of delivery after macrosurgical operations on Fallopian tubes was 5%, after microsurgical and laparoscopic operations – 40% and 50%, respec-

tively, after proximal part recanalisation of Fallopian tubes – 36%, after IVF – 25%.

**The conclusion.** The evolution of SR passed the way from simple operations restored only mechanical recanalisation of Fallopian tubes, the removing of tumors interfered with pregnancy coming to modern high-technology operations with application of precise optical systems, ultraprecise tools and sutural materials promoting restoration of anatomic and functional integrality of reproductive system. Miniinvasive and non-invasive methods – uterine arteries embolisation, focused ultrasonic ablation of uterine fibroid are the modern RS in gynecology.

The experimental (including ours) and the clinical researches in different countries allow to approach the humanity to transplantation of the uterus and its appendages as the vital organs in realization of reproductive function. A lot of ethical, legal, scientific and practical questions is on the way of realization of this stage of SR. Who needs a transplantation of the uterus and ovaries? Is the transplantation in gynecology really necessary? What reproductive organs can be replaced? What are the moral, ethical and legal aspects of transplantation in gynecology? What are the rights of married couples and separate persons in this case? Is the uterine transplantation feasible technically? Is it possible to restore in the future the menstrual cycle and fertility? How much is it? In present time there is more questions than answers.

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## SURGICAL TREATMENT OF TUBAL-PERITONEAL STERILITY IN PATIENTS WITH HYDOSALPINX

**Objective:** the determination of indications and contraindications for reconstructive-plastic surgery of uterine tubes in patient with hydrosalpinx.

**Materials and methods.** We have operated 159 female patients with tubo-peritoneal sterility, which resulted from existence of hydrosalpinx. All patients were underwent salpingoneostomy with application of laparoscopic (n=122) or microsurgical (n=47) technique. In 26 cases the microbiopsy of ampullar part endosalpinx of uterine tube with subsequent investigation of its ultrastructure by method of light and electronic microscopy (microscope "Hitachi", Japan) was performed.

**Results.** There were found no reliable distinctions in results of operations, performed with using of laparoscopic and microsurgical technique. Thus, the frequency of pregnancy occurrence after laparoscopic operations was 30,4% (34 of 112), and after microsurgical – 29,8% (14 of 47;  $p > 0,05$ ). The mean period of time between the operation and pregnancy occurrence after laparoscopy was  $5,4 \pm 0,4$  months, and after microsurgical operation –  $4,5 \pm 0,5$  months ( $p > 0,05$ ). However, application of laparoscopic technique is more justified, because it allows to reduce intraoperative hemorrhage, the duration of interven-

tion, number of postoperative complications and time of hospital stay.

**Conclusion.** There were revealed the following unfavourable factors reduced the probability of uterine pregnancy occurrence: hydrosalpinx diameter more than 1 cm, rigid wall of uterine tube, presence of evident adhesive process in pelvic cavity, previous uterine tubes surgery, the age of the patient more than 30 years and duration of sterility more than 5 years. At the

same time the most prognostic value for occurrence of uterine pregnancy is hydrosalpinx diameter and uterine tube thickness. Thus, the frequency of uterine pregnancy occurrence in patients, who had hydrosalpinx over 1 cm in diameter and thick wall of uterine tube didn't exceed 9,2%. At the same time in ultrastructure of hydrosalpinx of these patients there were revealed deep irreversible dystrophic changes, resulted in functional imperfection of uterine tubes.

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## THE PECULIARITIES OF PREGNANCY AND LABOR & DELIVERY COURSE IN PATIENTS AFTER LAPAROSCOPIC CORRECTION OF STERILITY

Reproductive health of the woman is the important condition of favorable prospects of each nation. The overcoming of married couple sterility is a question of state importance, but correct management of pregnancy and the choice of delivery method in pregnant after operative treatment of sterility is no less significant.

**Objective.** To analyse the pregnancy and labor and delivery course in women after laparoscopic correction of sterility.

**Material and methods.** The analysis of peculiarities of pregnancy and labor & delivery course was carried out in 54 women, became pregnant after laparoscopic treatment of sterility.

**Results.** Based on laparoscopic surgery data, sterility was caused by following factors: tubal – peritoneal (49,3%), peritoneal (9,6%), complete uterine tubes occlusion (38%), including sactosalpinx (23,4%). A combination of salpingitis with endometriozis was revealed in 28,2%, with uterine fibroma – in 10,4%, with syndrom of polycystic ovaries – in 16,4%, with anomalies of development of uterus – in 5,6%. During laparoscopy there was revealed the adhesive process of different degree by Hulk: I degree – 35%, II – 46%, III degree – 19%. Combined form of sterility took place in 57% of the patients, the combination of 3 – 4 factors was frequently observed. The pregnancy occurred in 6 months after operative treatment in 54% of women, in 12 months – in 31%, and in 18 months

– in 15%. The peculiarities of pregnancy course was: the high frequency of threatened abortion and preterm delivery – 44% in the Ist trimester, 35% – in the IId trimester, 21% – in the IIId trimester; early primary fetoplacental insufficiency – 32%; chronic intrauterine hypoxia – 34%, IUGR – 12%. There were not revealed reliable differences in frequency of OPH gestosis, anemia and others obstetric complications. The frequency of spontaneous abortion in the Ist trimester was 9%. Premature delivery was marked in 35% of the patients. Term delivery took place in 65%. Vaginal deliveries were observed in 62% of cases, cesarian section – in 38%. Among the indications for operative delivery the obstetric indications prevailed (86%), and were connected with fetal distress very often (69%). The common complications of labor were: primary (41%) and secondary (23%) weakness of contractions, progressing intranatal fetal hypoxia (10%). The characteristics was the correlation between the frequency and severity of the complications of pregnancy and labor and delivery and sterility duration, age of the parents, and peculiarities of conservative and operative treatment of sterility before pregnancy.

**Conclusions.** The women after operative treatment of sterility form the risk group of complicated pregnancy. The frequency of complications correlates with sterility etiological factor, duration of pathological process. It requires the careful pregravidarum preparation and specific pregnancy management from early stages

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## ENDOSCOPY IN ART

Laparoscopy and hysteroscopy approaches are taking a leading position in the up-to-date diagnostic and treatment techniques in gynecology and in reproductive medicine, in particular.

Extending and more successful clinical use of ART in recent years makes it significant to evaluate the role of endoscopy and ART for infertility treatment. The only criterion for taking decision is the answer to the