

**COMPARATIVE EFFECTIVENESS OF IN VITRO FERTILIZATION PROGRAMS
AFTER TREATMENT OF ENDOMETRIOID OVARIAN CYSTS BY
LAPAROSCOPIC EXCISION AND REDUCTION THERAPY**

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Abstract: A comparison was made of the effectiveness of assisted reproductive technology (ART) programs in patients after surgical treatment of endometrioid ovarian cyst (EOC) and after transvaginal puncture of the EOC. The study group consisted of 47 patients who underwent the ART program after puncture of the EOC, and 48 patients who entered the ART program after surgical treatment of EOC using laparoscopic enucleation of the cyst capsule using electrocoagulation. The control group consisted of 50 patients with male factor infertility.

Keywords: Cyst puncture, endometriosis, infertility, endometrioma, in vitro fertilization.

INTRODUCTION

Among infertile women entering assisted reproductive technology (ART) programs, up to 10% of patients have external genital endometriosis, which has clinical manifestations in the form of endometrioid ovarian cysts (EOC) [1]. This category of patients requires a special approach due to the fact that it is important for them to quickly enter the ART program, minimize the traumatic effect on the affected ovary and maintain oncological vigilance.

External genital endometriosis is a negative factor for a woman's fertility, and the very presence of EOC reduces the ovarian reserve, affects the functional state of the ovary, and reduces the quality of oocytes [2, 3].

MATERIALS AND METHODS

95 infertile women with unilateral EOC were examined, of whom 47 underwent preparation for the IVF program by puncture and aspiration of its contents (main group) and 48 underwent laparoscopic cystectomy (comparison group). The control group consisted of 50 healthy patients with male factor infertility.

The work was carried out in accordance with the requirements of biomedical ethics. All women who took part in the study signed voluntary informed consent.

The criteria for inclusion in the study were: age of patients under 35 years; single-sided EOC up to 40 mm in diameter; normal level of tumor marker CA-125; no contraindications to the IVF program. Exclusion criteria were: combined factor of infertility (uterine, endocrine);

RESULTS AND DISCUSSION

Ovarian reserve was assessed based on counting the number of antral follicles (AF) according to ultrasound data and AMH levels. Stimulation of superovulation was carried out according to a short protocol with GnRH antagonists according to the standard method [3], the starting dose of gonadotropins was calculated in accordance with the patient's ovarian reserve (150-300 units), ultrasound monitoring of folliculogenesis was carried out using a BK Medical Flex ultrasound scanner Focus 400, when the diameter of the leading follicle was 14 mm, GnRH antagonists were prescribed (ganirelix 0.25 mg), when the diameter of the majority of follicles was 18 mm or more, an ovulation trigger (choriogonadotropin alfa 6500 IU) was administered, after which after 35 -36 hours oocytes were collected under intravenous anesthesia. Fertilization of oocytes in the main group and the comparison group was carried out using the IVF method, in the control group – using the ICSI method. For embryo cultivation, CO2 incubators “Binder CB150” and Irvine Scientific Continuous Single Culture media were used.

The study groups were comparable in age and a number of anamnestic parameters. The average age of the examined women was 30.7 ± 0.5 years in the main group, 31.1 ± 0.6 years in the comparison group and 29.5 ± 0.5 years in the control group. On average, every fifth patient had a history of pelvic organ surgery (POS). Primary infertility was noted in more than half of the women in all groups. The duration of infertility in the groups was about 5 years. The number of pregnancies in the history of women in all groups varied from 0 to 4, the average number did not differ between groups. The EOC diameter did not differ in the main group and the comparison group. The level of tumor marker CA-125 remained within normal values in all groups.

During the examination before the IVF program, a significant decrease in the number of antral follicles (NAF) and AMH level was revealed in the comparison group (laparoscopic excision) compared to the main group (reduction therapy) and the control group (healthy women).

The decrease in ovarian reserve in the comparison group also affected the effectiveness of IVF programs. Thus, to obtain an adequate response to stimulation of superovulation in this group of patients, significantly larger doses of gonadotropins were required compared to the main group and the control group. The use of higher doses of gonadotropins in the main group compared to the control group was also noted, which may be due to the presence of EOC.

CONCLUSION

The results of the study allow us to conclude that the effectiveness of IVF programs after laparoscopic excision of EOC is reduced, which is consistent with literature data [4]. In our study, patients in this group showed a significant decrease in ovarian reserve, which resulted in the production of fewer viable embryos and a decrease in the “Baby take-home rate”. While the effectiveness of IVF programs in patients after EOC reduction therapy according to these indicators was comparable to the control group (healthy women with infertility associated with male factor). This allows us to recommend puncture and careful aspiration of the EOC contents as an alternative to laparoscopic excision in preparation for an IVF

program. This tactic allows you to reduce the volume of the ovary, verify the diagnosis of EOC, preserve the patient's ovarian reserve and achieve the desired pregnancy in the shortest possible time.

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