CLINICAL CASE

R.D. Filippova, T.Yu. Pavlova, S.I. Danilova, M.V. Maslova

PREGNANCY AND CHILDBIRTH IN A PATIENT WITH SWYER SYNDROME (CASE REPORT)

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The article describes a clinical case of pregnancy and childbirth resulting from assisted reproductive technologies using donor oocytes in a patient with Swyer syndrome. Patient V., 35 years old, was admitted to the Perinatal Center of GAU RB No. 1-NCM in Yakutsk in February 2019 with a diagnosis: Pregnancy, 31-32 weeks. Cephalic presentation. IVF-induced pregnancy (donor egg). Feto-placental insufficiency, impaired uteroplacental blood flow of 1 A degree. Concomitant diseases: Swyer syndrome (impaired sexual differentiation), the patient's karyotype as of June 30, 2015 was XY (male). Rhesus negative blood affiliation without isosensitization; gestational diabetes mellitus, diffuse goiter 0-1 degree.

She was examined at the Novosibirsk Regional Clinical Diagnostic Center in Novosibirsk State Medical University (2015), and found to have karyotype 46 XY, passport gender does not match the karyological one, diagnosis: Swyer syndrome. Since 2016, the patient has been taking Femoston® 2/10, which has caused the menstrual cycle to begin. Menses 3 days, moderate, painless, cycle 28 days.

This 2nd pregnancy in 2019 occurred after the 4th IVF attempt (egg donation, cryotransfer of 2 embryos). In a planned manner, according to a combination of relative indications: gonadal dysgenesis (removal of rudimentary gonads in 2001), pregnancy after IVF using donor oocytes, primipara 35 years of age, 38 weeks pregnant, was delivered by cesarean section under conditions of spinal anesthesia. A girl was born weighing 2850 g and 49 cm long, with an Apgar score of 8 out of 8 points. Postpartum lactation was sufficient. Sutures from the anterior abdominal wall were removed on the 8th day, and the mother and her newborn were discharged home on the 12th day in satisfactory condition.

Thus, absolute infertility due to gonad dysgenesis can be successfully overcome with the help of donor oocytes as part of the assisted reproductive technology program.

Keywords: Swyer syndrome, pregnancy, assisted reproductive technologies, in vitro fertilization.

Advances in reproductive technologies have made it possible, with the help of donor programs, to overcome absolute infertility caused by the absence or functional unsuitability of gametes.

Of particular scientific and practical interest is the group of patients with gonadal dysgenesis, for whom the mandatory signs are a sharp anatomical and functional underdevelopment of the gonads, the female type of differentiation of the genital ducts and externalia. The gonads in this form of the disease are most often represented by biologically inert connective tissue rudiments. The presence of morphologically inert rudiments of gonads, regardless of the genotype of the embryo, determines the differentiation of the reproductive ducts according to the female (main) type [4].

Attempts at the genotypic classification of this syndrome have not been successful due to the fact that a completely similar clinical presentation can be observed with different karyotypes, while the same karyotype can be observed in different clinical presentations [1]. Nevertheless, for practical convenience, it is customary to subdivide gonadal dysgenesis into two clinical forms: typical and "pure", which are characterized by the following general symptoms: primary amenorrhea, lack of female secondary sexual characteristics, infertility. However, the typical form of gonadal dysgenesis is also characterized by the presence of somatic abnormalities (body height below 145 cm, excess fat deposition on the anterior abdominal wall, short neck with pterygoid folds, skeleton abnormalities – sternum impression, narrow pelvis, syndactyly, etc., malformations of internal organs – narrow aortic isthmus, non-closed interventricular septum, Botallo's duct, etc.).

With the "pure form" of gonadal dysgenesis (Swyer syndrome also belongs to this group), somatic abnormalities are absent, the disease is manifested by primary amenorrhea, infertility, genitalia infantility and the absence of female secondary sexual characteristics in patients. Patients have a correct physique, normal height, underdeveloped mammary glands, no signs of pubic hair. The external genitalia are developed according to the female type with hypoplasia. The vagina is capacious, the uterus is undersized. The tubes are thin, long, crimped. In the place of the ovaries, the rudiments of gonads are localized. Histologically, the gonads are a stroma consisting of fibroblast cells whose nuclei do not contain sex chromatin. In the stroma, sterile seminiferous tubules are found, lined with an immature type of Sertoli epithelium, and clusters of typical Leydig cells. Hormonal examinations show a significantly increased level of gonadotropins in the blood and a low level of estradiol. In order to produce phenotypic-correcting effect in patients with gonad dysgenesis, prolonged hormone replacement therapy is used. It is strongly recommended to remove the rudiments in patients with the presence of the Y chromosome in the karyotype, since the prolonged intake of estrogens significantly increases the frequency of tumor development from the remnants of testicular tissue. Before the advent of in vitro fertilization, such patients were doomed to be childless.

The first report of a twin pregnancy in a patient with XY gonad dysgenesis as a result of embryo donation and its successful delivery appeared in 1989 [6]. The first experience in implementing the program "oocyte donation" in Russia was gained at the Moscow center for the treatment of infertility "EKO" [1]. However, this program used so-called "extra" oocytes obtained in the IVF program for the treatment of infertility in other women or the ova of the patient's relatives.

In 1983, Alan Trounson et al. from Australia reported a successful pregnancy in a woman with bilateral ovarian removal, as well as in a patient with primary ovarian failure using donor embryos [5, 8]. In 1984, P. Luitjen et al. for the first time published information about pregnancy resulting from IVF-OD in a woman with

PHILIPPOVA Rosa Dmitrievna - MD, Head of Department of Obstetrics and Gynecology, M.K. Ammosov North-Eastern Federal University, www.s-vfu.ru, Yakutsk, E-mail: rosa-filipp@ mail.ru, mob. Tel: 8-914-105-52-83; **PAVLOVA Tatyana Yuryevna** - PhD, Director of the Perinatal Center of Republican Hospital No.1, National Center of Medicine, Yakutsk, E-mail: tatyanaupavl@mail.ru, mob. tel: 8-924-872-71-64; **DANILOVA Sargylana Ivanovna** - Deputy Director of the Perinatal Center of Republican Hospital No.1, National Center of Medicine, Yakutsk, E-mail: dsargylana66@ mail.ru, mob. tel: 8-914-224—96-98; **MASLOVA Maria Vladimirovna** -Senior Lecturer, Department of Obstetrics and Gynecology, Medical Institute, M.K. Ammosov North-Eastern Federal University, Yakutsk, E-mail: marivladi8888@mail.ru mob. tel: 8-914-293-03-82.

primary ovarian failure [7]. There are absolute indications for the use of donor oocytes: premature ovarian failure, natural menopause, amenorrhea due to bilateral ovariectomy, radiation or chemotherapy, gonad dysgenesis [6].

Clinical case: patient V., 35 years old, was admitted to the Perinatal Center of GAU RB No. 1-NCM in Yakutsk in February 2019 with a diagnosis: Pregnancy, 31-32 weeks. Cephalic presentation. IVF-induced pregnancy (donor egg). Feto-placental insufficiency, impaired uteroplacental blood flow of 1 A degree. Concomitant diseases: Swyer syndrome (impaired sexual differentiation), the patient's karyotype as of June 30, 2015 was XY (male). Rhesus negative blood affiliation without isosensitization; gestational diabetes mellitus, diffuse goiter 0-1 degree.

Upon admission to the hospital, the patient agreed to the processing of personal data, as well as gave her informed consent to the publication of the medical data presented in the article (in anonymous form).

Anamnesis: due to primary amenorrhea and tumor formation in the small pelvis in 2001, at the age of 17 years, an elective surgery was performed, the gonads removed, the omentum resected. Histological conclusion: dysgerminoma. In 2015, she was examined at the Novosibirsk Regional Clinical Diagnostic Center, Novosibirsk State Medical University, and found to have karyotype 46 XY, passport gender does not match the karyological one, diagnosis: Swyer syndrome. Since 2016, the patient has been taking Femoston® 2/10, which has caused the menstrual cycle to begin. Menses 3 days, moderate, painless, cycle 28 days.

To address the possibility of pregnancy planning using assisted reproductive technologies (ART), she turned to the Mother and Child Center, Novosibirsk.

1st pregnancy in 2017 – IVF by a donor egg, non-developing pregnancy at 5-6 weeks, vacuum aspiration was carried out, without complications.

2nd pregnancy in 2019 – this pregnancy occurred after the 4th IVF attempt (egg donation, cryotransfer of 2 embryos). Last menstruation July 10, 2018, the first half of pregnancy proceeded with moderate toxicosis (vomiting 3-4 times a day, weight loss 8 kg.). Symptomatic and hormonal treatment: Proginova® up to 16 weeks, Utrogestan® 200 mg 3 times a day (to date). Combined screening of the 1st trimester passed, an increase in hCG. The second half of pregnancy went smoothly. Examined in the antenatal clinic of the Perinatal Center with a period of 27-28 weeks of pregnancy. The conclusion of the medical consultation as of January 16, 2019 – there is a high risk of premature birth, it is recommended to continue monitoring, planned cardiotocography, hospitalization according to indications. Examined in the medical-genetic center: 26 weeks pregnant. Aggravated gynecological history (IVF-induced pregnancy, donor egg). Increased hCG in the blood. The patient's karyotype is 46 XY (male gender), on hormone therapy. The chromosomal pathology risk for the fetus is increased to 5%. Cardiotocography of the fetus is within normal limits. Prevention of Rhesus immunization with immunoglobulin Rhes (D) anti-Rhesus carried out. Objectively: condition satisfactory, height – 157 cm, weight – 64.5 kg. Proper physique, satisfactory nutrition, mammary glands Tanner stage 2, hair growth on the border type. The skin is clean, normal color. Peripheral lymph nodes not enlarged. Heart sounds clear, rhythmic. Vesicular breathing, no wheezing. Blood pressure – 110/70 mm Hg, pulse – 76 beats/min. Respiratory rate – 16 breaths per minute. The abdomen is soft, painless. The uterus is normotonic, painless. Longitudinal lie. Head above the entrance to the small pelvis. Regular fetal movement. The fetal heartbeats clear, rhythmic up to 140 beats/min. Urination painless, sufficient. No swelling. Discharge white, sparse. Taking Duphalac®, stool regular.

When performing ultrasound and biochemical screening in the first trimester, ultrasound screening in the second trimester, no irregularities in the development of the fetus were found. Dopplerometric indicators of uterine and fetal-placental blood flow were within the reference values up to 37/38 weeks of pregnancy. The examination was performed 1-2 times a week after 32–34 weeks of pregnancy. At the gestational age of 37/38 weeks, a II degree hemodynamic disorder was detected (increased vascular resistance in the uteroplacental blood flow).

In a planned manner, according to a combination of relative indications: gonadal dysgenesis (removal of rudimentary gonads in 2001), pregnancy after IVF using donor oocytes, primipara 35 years of age, 38 weeks pregnant, was delivered by cesarean section under conditions of spinal anesthesia. A girl was born weighing 2850 g and 49 cm long, with an Apgar score of 8 out of 8 points. Postpartum lactation was sufficient. Sutures from the anterior abdominal wall were removed on the 8th day, and the mother and her newborn were discharged home on the 12th day in satisfactory condition.

Thus, absolute infertility due to gonad dysgenesis can be successfully overcome with the help of donor oocytes as part of the assisted reproductive technology program [1.2]. The absence or anatomical and functional underdevelopment of gonads causes a high risk of miscarriage and, accordingly, the need for long-term hormonal therapy during pregnancy in this group of patients.

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