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The Effect of Metrofibroma On the Prenatal Development of The Fetus

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ABSTRACT

One of the most important challenges that obstetrician-gynecologists face is the absence of complications during normal prenatal development of the fetus, childbearing without complications, and the reduction of the number of children born with defects in the postpartum period. Numerous studies have been conducted to find solutions for these problems, since solving them ensures the health of the gene pool. Given the relevance of the problem, 30 women were monitored by the authors during pregnancy and divided into three groups. The first group included 30 pregnant women according to the collected anamnesis. Pregnancy of women from the second group proceeded under the supervision of the authors. The third group included 26 pregnant women who received treatment for metrofibroma and became pregnant again. Prenatal development of the fetus, complications during the internatal period and the health status of newborns in the postpartum period were evaluated in pregnant women from the second and third groups. The results of the studies showed that after treatment of metrofibroma, pregnancy proceeded without complications. Bleeding and premature birth were not observed, hysterectomy was not performed. Spontaneous miscarriage decreased by 7%, preterm rupture of membranes decreased by 12%. The authors believe that metrofibroma is a high-risk factor for complications during pregnancy, therefore, radical treatment of metrofibroma before pregnancy is important.

Key words: Pregnancy, Metrofibroma, Pharmacological drugs, Laparoscopic myomectomy

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INTRODUCTION

Prenatal fetal development has always been the focus of obstetrics and gynecology. It plays an important role in solving the problem of providing the community with healthy people. Researchers proved that prenatal fetal development depends on women's reproductive health and extragenital diseases [1-3]. The protection of the reproductive health of the female population and its restoration have become a priority for research in medicine. It was found that changes that occurred in the configuration of the uterus play a major role in factors affecting the prenatal development of the fetus [4,5].

Metrofibroma is one of the leading factors in the disruption of the anatomical configuration of the uterus [6,7]. In the last decade, this pathology occurred in 20-25% of women of the reproductive age, especially in women under the age of 30 years [8,9]. It has already been unequivocally proved that submucous and intramural fibromyomas, leading to various complications, cause serious obstacles to the normal course of pregnancy [10-12]. That is why observation of pregnancy of women with metrofibroma is in the focus of attention of researchers today. The aim of the study was to restore reproductive function and improve the course of pregnancy in patients with metrofibroma using conservative surgery.

MATERIALS AND METHODS

The study was conducted on 30 women with metrofibroma. Fifteen women (50%) had subserous myoma, ten women (33%) had interstitial myoma, and five women (17%) had submucous myoma. In 17 (57%) pregnant women, the myoma was in the cervical uterus, in 11 (37%) women it was in the body of uterus, and in two (6%) patients it was between the sheets of mesodesma.

In accordance with the accepted protocol, all

patients underwent ultrasound diagnostics; MRI was performed in three patients with a suspected diagnosis. All patients were diagnosed with metrofibroma. The first group of 27 pregnant women with metrofibroma consisted of patients who were diagnosed based on the anamnesis and were informed about their reproductive function. Thirty pregnant women were included in the second group; they were under our supervision during the pregnancy period. According to our recommendation for metrofibroma, women who became pregnant after treatment were included in the third group [12].

Patients were included in the study in accordance with the following rules

✓ Consent of the patient to participate in the study.

✓ No contraindications to the use of drugs or surgical interventions.

✓ Early and late reproductive age (20-35 years).

✓ The presence of signs of metrofibroma.

✓ The presence of metrofibroma for 12 weeks or more.

✓ The presence of large submucous nodes.

Patients were excluded from the study in the following cases

✓ Refusal to use the examination and the results for the study.

✓ Contraindications and diseases against the proposed treatment.

✓ Morbid obesity (body mass index > 35).

✓ Concomitant gynecological pathology, including adenomyosis, retrocervical endometriosis, oncological diseases, atypical endometrial hyperplasia, inflammatory diseases of the pelvic organs, submycotic myoma of type 0 and 1.

✓ Severe extragenital pathology that could affect the treatment.

RESULTS AND DISCUSSION

Table 1 shows that metrofibroma are most common in women older than 30 years. These women were included in the first group. According to the collected anamnesis, three women (10%) were pregnant for the first time, and 27 women (90%) were repeatedly pregnant.

Table 1: Age distribution of pregnant women with metrofibroma.

№	Age	Number of patients	
		Abslut value	Relative value
1	22-25	3	10
2	26-30	7	23
3	31-35	20	67

Five pregnant women (18.5%) knew about the presence of metrofibroma for two years before pregnancy, eight women (30%) knew about the condition for three years, and six women (22%) knew about the condition for four years. Two women (7%) did not remember the period during which they had metrofibroma.

Of the 27 pregnant women, only two women (8%) had a satisfactory pregnancy, and both had a caesarean section. Of the remaining 25 pregnant women, eight women (39%) had a spontaneous miscarriage, five women (20%) had a miscarriage due to the bleeding, nine women (36%) had a dead fetus, and three women (12%) had an artificial delivery due to abnormality of the fetus. About 27 people (90%) were registered in the clinic for metrofibroma and received conservative treatment. Examination of the registration forms showed that 15 out of 27 patients (56%) were treated using 3.75 mg buserelin acetate for six months. Patients were prescribed 0.03 mg of ethinyl estradiol and 2 mg of dienogest per day to neutralize the effect of the drug on bone metabolism. However, despite the systematic treatment of patients, they could not become pregnant.

Twelve of 27 pregnant women (44%) received iron fumarate containing plant vitamin groups, one tablet twice a day together with folic acid for 15 days. The administration of the drug was repeated every three months but was not beneficial. Table 2 shows complications during pregnancy, depending on the taken medication.

Table 2 shows that treatment with buserelin acetate was more effective than treatment with iron fumarate+folic acid. However, pregnancy did not give satisfactory results since conservative treatment could not ensure normal prenatal development of the fetus. When women became pregnant again, they were registered at the Research Institute of Obstetrics and Gynecology of the Ministry of Health of the Republic of Azerbaijan. Based on the collected anamnesis, women were given recommendations on the normalization of lifestyle. Pregnant women were

Table 2: Prenatal development of the fetus depending on the administered medication for metrofibroma treatment in the first group of pregnant women.

№	Health complication	Medication		Total
		Buserelin acetate n=15	Iron fumarate+folic acid n=12	
1	Spontaneous miscarriage	5 (50%)	5 (50%)	10 (32%)
2	Miscarriage due to bleeding	2 (40%)	3 (60%)	5 (20%)
3	Birth of a dead fetus	5 (37%)	3 (37%)	8 (36%)
4	Artificial delivery due to abnormality of the fetus.	3 (67%)	1 (33%)	4 (12%)

Table 3: Medical consequences of pregnancy during metrofibroma and after treatment.

№	Medical consequences	Second group N=30	Third group N=16
1	Bleeding	17%	-
2	Spontaneous miscarriage	13%	6%
3	Pre-labor rupture of membranes	19%	7%
4	Premature birth	11.50%	-
5	Hysterectomy	15%	-
6	Hypamnion	-	6%
7	Congenital malformation of the fetus	13%	-

provided with a memory card with the following recommendations:

✓ To ensure normal sleep.

✓ To include nutrients rich with vitamins and minerals in the diet.

✓ To ensure physical activity (walking in the fresh air).

✓ To avoid nervous tension and stress.

✓ To eliminate the use of harmful substances, including alcohol, cigarettes, and illegal drugs.

Pregnant women were examined during the registration based on the protocol of the Research Institute of Obstetrics and Gynecology. Pregnancy was periodically monitored using ultrasound; the likelihood of bleeding was calculated. Given the fact that a decrease in progesterone was the main reason for the growth of metrofibroma, we prescribed all patients ulipristal acetate with a selective progesterone receptor modulator. Regular blood and coagulation tests were performed in pregnant women to determine the likelihood of bleeding. Buserelin acetate can significantly reduce the chance of bleeding due to its effect on the endometrium. In case of bleeding, we tried to prevent it by injecting from 50 to 100 ml of amino acetate, and, in several cases, by intramuscularly injecting 2 ml of a solution of vikasol. Despite preventative measures, bleeding occurred in three pregnant women (10%) during the first trimester of pregnancy. We managed to stop the bleeding conservatively only in one patient out of three (33%). The remaining two patients (67%) underwent laparoscopic conservative myomectomy. All three pregnant women who had bleeding managed to maintain their pregnancy. In the last week of the first trimester, two (7%) pregnant women had a spontaneous miscarriage. Two patients (7%) had profuse bleeding in the second trimester, which we were unable to stop using conservative methods and, therefore, laparoscopic surgeries were performed on them. In one case, myoma was subserous, other patient had myoma between the muscles. Pregnancies were terminated due to the inability to save the fetus in both pregnant women after surgery.

There were no serious complications in the development of the fetus in the third trimester (Table 3). Fibromatosis node bleeding occurred in five (17%) patients that we monitored. In four patients (80%), bleeding was stopped surgically. Abortion was performed for 40% of pregnant women, whose condition was worsened by bleeding. In 60% of cases, patients were able to maintain pregnancy. Twenty-six (87%) pregnancies ended with childbirth. However, complications were recorded in the intrapartum period (Table 3). Five pregnant women (19%) experienced pre-labor rupture of membranes. Three women (11.5%) had a premature birth. In eight pregnant women (31%), the delivery was performed using cesarean section, and in 18 women (69%), the delivery went physiologically.

There was bleeding in four pregnant women (15%) during childbirth, and it was impossible to stop it conservatively. Because of this, the uterus was amputated laproscopically. In the postpartum period, hydrocephalus was detected in one of 26 newborns; palatoschisis was found in another one; the third newborn had an open

arterial duct; the fourth newborn was diagnosed with atresia of the rectum. Consequently, 33% of 30 women with metrofibroma had a pregnancy defect. At the end of pregnancy, 22 pregnant women received treatment according to our recommendation. 14 of them (64%) underwent conservative myomectomy with laparoscopy. In eight patients (36%), Mirena hormonal coil was installed to ensure the prevention of abnormal uterine bleeding. To reduce the size of metrofibromas, patients were prescribed ulipristal acetate four times a year every three months. Bleeding was not observed in 100% of eight people that received Mirena.

However, according to the results of ultrasound testing, metrofibromas were not reduced in size. Sixteen out of 22 pregnant women that underwent treatment became pregnant again and were registered in the outpatient department of the Research Institute of Obstetrics and Gynecology. They were included in the third group. Eight (50%) patients became pregnant again one year after treatment, one patient became pregnant (6%) three years later, two patients (12.5%) became pregnant four years later, one patient (6%) became pregnant five years later. In the first trimester, pregnancy was normal. In the second trimester, only one patient (6%) had a spontaneous miscarriage. Ultrasound testing in the third trimester found hypamnion in one pregnant woman (6%). Other patients had a normal perinatal period. Fifteen pregnancies ended with childbirth. Only one patient (7%) had pre-labor rupture of membranes. The postpartum period was normal, there were no birth defects.

CONCLUSION

Thus, the results of our studies show that metrofibroma is a high-risk factor for a complicated pregnancy. Therefore, it is advisable to get pregnant after metrofibroma treatment. However, when bleeding during pregnancy cannot be stopped with hemostatic drugs, pregnancy can be maintained by conservative myomectomy by laparoscopy.

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