



is a necessary prerequisite for the development of the right tactics for pregnancy and optimal delivery in such patients.

Ultrasound scanning with volumetric reconstruction and determination of choral blood flow by means of VOCAL (Virtual Organ Computer-Aided Analysis) programs of 30 healthy pregnant women (control group) and 30 pregnant women with habitual noncarrying of pregnancy (main group) in terms of 6-8 and 12-13 weeks has been carried out. According to the ultrasound findings indices of the blood flow volume (vascularization index and the blood flow index), as well as the chorion volume were determined. The studies have led to the conclusion that the chorion average volume in women with a habitual noncarrying of pregnancy at 5-8 weeks was  $8.77 \pm 0.99 \text{ cm}^3$ , in healthy women -  $11.76 \pm 1.3 \text{ cm}^3$ ,  $0.05$ . In the 12-13 weeks of gestation the average chorion volume decreased significantly in women of the main group in comparison with the control ( $51.28 \pm 4.2 \text{ cm}^3$  vs.  $72.28 \pm 4.7 \text{ cm}^3$ , respectively,  $<0.05$ ).

When studying the percentage of the vascular elements in a certain volume of the placental tissue, namely the vascularization index, it was ascertained that its increase was observed in both groups, but there were some differences. Reliable decrease of vascularization index in comparison with pregnant women of the control group, respectively  $7.81 \pm 1.03$  and  $16.58 \pm 1.75$  ( $p < 0.05$ ) was observed in women with habitual miscarriage in 5-8 weeks. At 12-13 weeks of gestation, this index underwent more significant changes ( $9.55 \pm 0.88$  and  $20.56 \pm 1.55$ ; in the main group and the control, respectively,  $p < 0.05$ ). The blood flow index gradually increased in the first trimester of pregnancy in both groups under study, but these data did not have reliable difference. In pregnant women with habitual miscarriage in the anamnesis and control group in 5-8 weeks FI was  $34.81 \pm 1.3$  and  $33.96 \pm 1.1$  ( $p > 0.05$ ), in 12-13 weeks -  $46.35 \pm 3.1$  and  $40.54 \pm 2.9$ , respectively ( $p > 0.05$ ).

Therefore, the above data indicate a slowdown in the development of the chorionic tree, which in the future will negatively influence on the formation and functioning of cotyledons. The data obtained are evidence of inadequate gestational transformation of extraembryonic structures. A high risk of primary placental dysfunction should be predicted in order to prevent perinatal complications in pregnant women with a habitual noncarrying of pregnancy with chorion volume  $< 65 \text{ cm}^3$  and vascular index  $< 19$ .

**Dyak K.V.**

## **LIKELIHOOD OF POSSIBLE PREPARATION IN WOMEN WITH THREATS TO PREGNANCY AND EROSION OF THE CERVIX**

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In women with pathology of the cervix, the incidence of infertility, miscarriages, premature birth, infection of the fetus and other complications in childbirth and the postpartum period increases. This is due to the fact that pathological changes in the cervical epithelium lead to the disruption of one of the physiological barriers that provide infectious resistance.

Therefore, the objective of our work is to determine the role of IL-8 in the development of preterm birth in women with the risk of preterm birth and erosion of the cervix. Clinical and laboratory examination of 60 pregnant women with additional definitions of IL-8 was conducted: 40 - the main group who were on inpatient treatment diagnosed with apparent contractions; 20 - the control group, which included pregnant women without diagnosis of apparent contractions. Determination of IL-8 was performed in cervical mucus and serum on Rider Myltiskan EX enzyme analyzer using reagent kits and test systems.

IL-8 is known to be a proinflammatory cytokine. The presence of a local inflammatory process was determined by bacterioscopic examination of vaginal discharge and the presence of underlying pathology of the cervix. When determining the level of IL-8 in the period of 22-30 weeks and 6 days of gestation its significant increase was found in the cervical mucus and in the serum when compared with the control group. In the group of pregnant women with 22-27 weeks and 6 days of gestation structural changes of the cervix were found only in two cases (8.7%), in the



group of 28-30 weeks and 6 days of gestation there were no structural changes of the cervix. At 31-33 weeks and 6 days of gestation similar significant differences were found in the content of IL-8, however, structural changes in the cervix were detected in 66.7%, including premature births in 33.3%. It was found that the level of IL-8 in pregnant women with an increased number of leukocytes in the vagina was lower than in pregnant women with a normal number of leukocytes.

Therefore, women with the risk of preterm birth, regardless of pregnancy, have a significant increase in IL-8 several times, which is caused by an infectious factor. During 31-34 weeks of gestation a significant increase in IL-8 to 30.61 ng / ml indicates the possibility of preterm birth in 33.3%. Elevation of IL-8 in cervical mucus to 33.92 ng / ml in the presence of painful uterine contractions during 22-31 weeks of gestation is preceded by structural changes in the cervix.

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### **POLYCYSTIC OVARY SYNDROME IN THE OLDER WOMAN**

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The polycystic ovary syndrome (PCOS) is the commonest endocrine condition among women in their reproductive years. It presents with variable clinical features and has a heterogeneous endocrine profile. PCOS usually presents with a patient complaining of reproductive symptoms such as hirsutism, menstrual disorders or infertility, but already at a young age there is evidence of metabolic disturbances. It is the metabolic dysfunction which poses a considerable health risk to women in their later decades.

Studies which have tried to assess the prevalence of PCOS have demonstrated polycystic ovaries, as assessed on ultrasound, in some 20-22% of women. Not all of them will develop PCOS as it only occurs in some 5-10% of women of reproductive age. Long term follow up is essential because of the possibility of ongoing metabolic disorders which may impact the health of affected women in later life. These include disorders of glucose tolerance and cardiovascular function.

It is difficult to determine why a woman with polycystic ovaries eventually develops PCOS. PCOS tends to cluster in families and it is therefore likely that there is a genetic element to this condition. In the debate between inheritance versus adverse environment, it is recognised that the environmental impact on the development of PCOS is very important. Intra-uterine stressors, events in childhood/puberty and the impact of obesity in adulthood may all influence the development of PCOS. In short, the metabolic environment may impact upon a woman's genetic predisposition and result in the development of PCOS.

There is considerable evidence that women with PCOS may later develop dyslipidemia, impaired glucose tolerance (IGT) or type II diabetes, the metabolic syndrome and ultimately these impact on cardiovascular disease. Both the diabetic related conditions and the cardiovascular factors result in an increased risk for cardiovascular disease and long term morbidity. There is considerable information in the literature about the possible impact of PCOS on late onset disease.

In conclusion, PCOS remains a challenge and a fascinating condition. While most patients present in their reproductive years, often because of menstrual abnormalities or infertility, many only present in their late thirties or early forties and all will need treatment and surveillance into later life.

**Lisova K.M.**

### **ULTRASOUND IMPROVEMENT OF EMBRYON DEVELOPMENT IN PRETERM PREGNANCY**

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Pregnancy miscarriage is a serious problem in modern obstetrics, which is one of the most common causes of perinatal loss. That is why the early diagnosis of this disease plays an important