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## **OXIDATIVE STRESS MARKERS IN PREGNANT WOMEN WITH FETUS GROWTH INHIBITION**

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Recognizing intrauterine growth restriction (IUGR) is a matter of great concern because this condition can significantly affect the newborn's short- and long-term health [5]. Early-onset fetal growth restriction represents a particular dilemma in clinical management balancing the risk of iatrogenic prematurity with waiting for the fetus to gain more maturity, while being exposed to the risk of intrauterine death or the sequelae of acidosis [1]. Between 5% and 10% of fetuses are unable to achieve their genetically determined potential size as a result of IUGR. During intrauterine life, the growth-restricted fetus makes a number of hemodynamic, metabolic, and hormonal adjustments to cope with the adverse uterine environment, and these changes may become permanent and irreversible [5]. For growth-restricted infants, the immediate consequences at delivery may include hypothermia, hypoglycemia, hyperglycemia, persistent pulmonary hypertension, pulmonary hemorrhage, polycythemia, stillbirth, and intrapartum asphyxia [5, 6]. Since IUGR is frequently associated with preterm birth, multisystem diseases of prematurity, such as impaired physical growth, or cognitive and motor development, may affect the intermediate and long-term outcomes of IUGR newborns. Several studies also suggest that an impaired fetal growth can predispose to certain major diseases later in life, including metabolic syndrome, obesity, coronary heart disease, hypertension, dyslipidemia, type 2 diabetes, and chronic lung and kidney diseases [2, 3, 4, 5, 7].

Despite advances in our knowledge of IUGR newborns, biomarkers capable of identifying this condition early on, and stratifying its severity both pre- and postnatally, are still lacking [5].

**Object of the work** – estimate the oxidative stress markers of pregnant women with fetus growth inhibition.

### **Examined group and research methods**

The complex examination of 63 pregnant women was made in term of 28-34 weeks of gestation. Main group includes 33 pregnant women with fetus growth inhibition. Control group was presented by 30 pregnant women without fetus growth inhibition. Markers of oxidative modification of proteins were analyzed in blood

serum by means of spectrophotometric method and glutathione level was analyzed by fluorometric method. Investigations of markers of oxidative modification of proteins (OMP) were estimated in the blood serum with spectrophotometric method when length of the wave was 270 nm (aliphatic aldehyde dinitrophenylhydrazones – APH) and 363 nm (carbonyl dinitrophenylhydrazones – CPH). Variational and statistical processing of results was made using STATISTICA 13 – license standard application program packages for multidimensional statistical analysis.

**Research results and their discussion**

Estimation results of markers of oxidative modification of proteins (Fig. 1 and 2) and glutathione level in pregnant women of group under investigation in dynamics indicate the progress of imbalance between oxidants and antioxidants among pregnant women with fetus growth inhibition compared to women without fetus growth inhibition ( $p < 0.05$ ). Such changes occur in conditions of lack of glutathione which level was significantly and statistically lower ( $p < 0.05$ ) in pregnant women with fetus growth inhibition. During estimation of antioxidative system of protection there was definitely determined ( $p < 0.05$ ) the highest level of glutathione of 2,2 (1,6; 7,0), which the pregnant women of the control group have, comparing to the correspondent index of 1,2 (0,7; 2,8), which the pregnant women of the main group have.

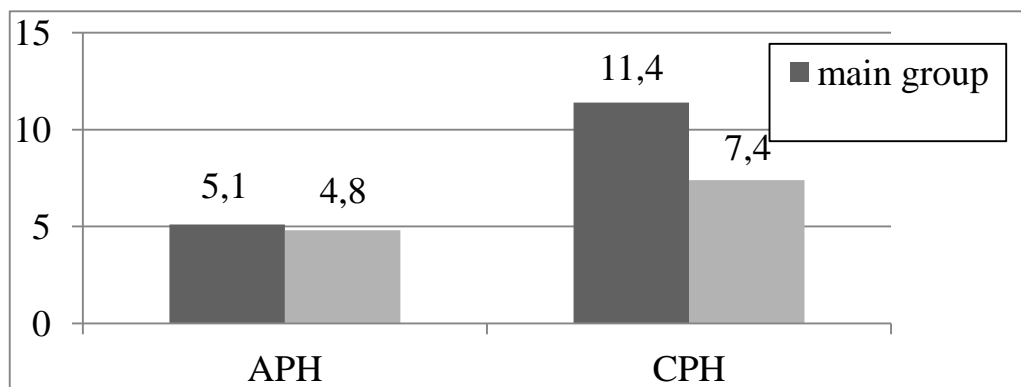


Fig. 1. Characterization of spontaneous oxidation of proteins in the study group.

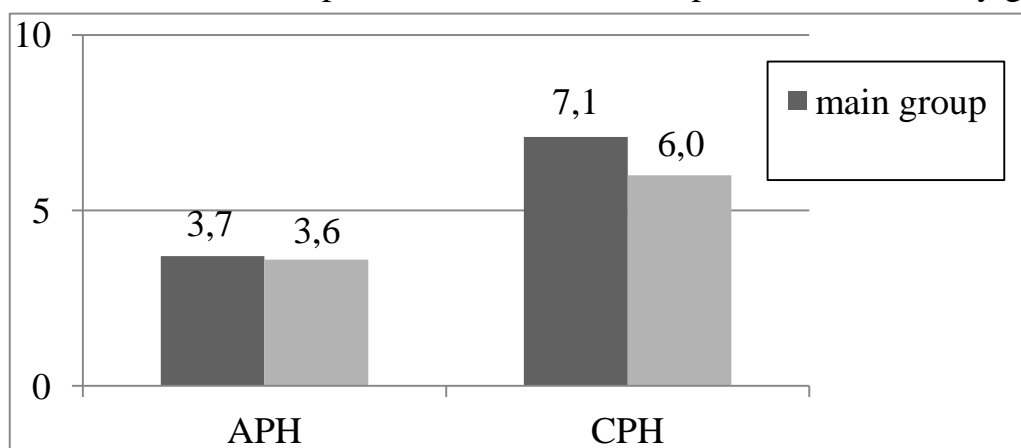


Fig. 2. Characteristics metal-catalyzed oxidation of proteins in the study group.

These results indicate intensification of oxidative modification of proteins together with decrease of reserve and adaptive abilities of antioxidant system of serum in the main group of pregnant women and it is the manifestation of oxidative stress.

## Conclusions

Pregnancy course complicated by fetus growth inhibition is characterized by intensification of oxidative modification of proteins with decrease of reserve and adaptive abilities of antioxidant system of serum. These results indicate occurrence of oxidative stress in this group of women. It should be considered as one of the important links of pathogenesis of fetus growth inhibition.

## References

1. Frusca T., Todros T., Lees C., Bilardo C. Outcome in early-onset fetal growth restriction is best combining computerized fetal heart rate analysis with ductus venosus Doppler: insights from the Trial of Umbilical and Fetal Flow in Europe. *Am J Obstet Gynecol.* 2018; 218(2S): 783-789. doi: 10.1016/j.ajog.2017.12.226
2. Hales C.N., Barker D.J., Clark P.M., Cox L.J., Fall C., Osmond C., Winter P.D. Fetal and infant growth and impaired glucose tolerance at age 64. *BMJ.* 1991; 303: 1019-1022. doi: 10.1136/bmj.303.6809.1019
3. Law C.M., Shiell A.W. Is blood pressure inversely related to birth weight? The strength of evidence from a systematic review of the literature. *J. Hypertens.* 1996; 14: 935-941. doi: 10.1097/00004872-199608000-00002
4. Longo S., Bollani L., Decembrino L., Di Comite A., Angelini M., Stronati M. Short-term and long-term sequelae in intrauterine growth retardation (IUGR) *J. Matern. Fetal. Neonatal Med.* 2013; 26: 222-225. doi: 10.3109/14767058.2012.715006
5. Priante E., Verlato G., Giordano G., Stocchero M., Visentin S., Mardegan V., Baraldi E. Intrauterine Growth Restriction: New Insight from the Metabolomic Approach. *Metabolites.* 2019; 9(11): 267. doi: 10.3390/metabo9110267
6. Sharma D., Shastri S., Sharma P. Intrauterine growth restriction: Antenatal and postnatal aspects. *Clin. Med. Insights Pediatr.* 2016; 10: 67-83. doi: 10.4137/CMPed.S40070
7. Vayssiere C., Sentilhes L., Ego A., Bernard C., Cambourieu D., Flamant C., Gascoin G., Gaudineau A., Grangé G., Houfflin-Debarge V., et al. Fetal growth restriction and intra-uterine growth restriction: Guidelines for clinical practice from the French College of Gynaecologists and Obstetricians. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 2015; 193: 10-18. doi: 10.1016/j.ejogrb.2015.06.021