
LABOR ACTIVITY IN DAILY LIFE AND AT EXECUTION DURING PREGNANCY. ITS INFLUENCE FOR A HEALTH OF INFANT

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The aim of the following investigation is to determinate the interaction between work place of mother during pregnancy and the development in future of chronical disease of its infant. In case such interaction does exist it might be referred towards one more mechanism of interaction of growing generation with negative social conditions and poverty. By plain comparison of pregnancy outcomes for working women and for unemployed women the fact of caring out house work and child care were not taken into consideration. Application of modern mathematical statistical methods of results processing in the inquiry of 602 mothers of children with chronical pathology and 600 ones without any matched according to the method «copy - pair» and comparable with each other, allowed to determine that each out of six women during pregnancy is carrying heaviness more then 10 kg, experiences permanent and temporary physical efforts due to its labor activity and what is more common at execution. One out of five respondents had sufficient mental assignments, i.e. one could refer carrying out of routine work, that does not focus attention and stimulate no interest. In 18,2% case employed women pointed out that they had experienced the influence of factors related to job environment (dealing with specific chemical substances, impact of heavy noise, cold, dampness, magnetic fields etc.). Interaction was determined between the following parameters associated with labor activity of pregnant women and the development of chronical pathology of her baby in future, i.e. physical assignments ($r=20,1\%$), mental assignments ($r=25,2\%$), negative influence of environmental issues ($r=24,3\%$). Obtained results force us to conceive that in modern environment specific gravity of potential mothers who experience influence of factors related to their activity in everyday life and execution, and its impact in certain extend forms the health of potential generation.

FETAL PLASMA ACTG, CORTISOL AND C-PEPTIDE LEVELS AND FETAL LUNG MATURITY IN INSULIN-DEPENDENT DIABETIC PREGNANCIES

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Objective: Maternal diabetes has been associated with an increase risk of fetal pulmonary immaturity. The maternal hyperglycemia which result fetal hyperinsulinemia and other endocrinology changes in fetus in diabetic pregnancies may be responsible for the delayed lung maturation.

Methods: Fetal blood (FB) and amniotic fluid (AF) samples were obtained by transabdominal cordocentesis and amniocentesis in 24 women with pregnancy, complicated by insulin-dependent diabetes, at 34-37 weeks gestation. Lecithin / sphingomyelin (L/S) ratio was determined by optical density AF at 650 nm, ACTG and C-peptide - by radioimmunoassay, cortisol by immunoenzimaticassay methods. Optical density AF at 650 nm 0,150 is associated with L/S ratio equivalents 2. The statistics was made using Student t-test and correlation analyze.

Results: All women were classified in two groups: I group ($n=11$) included cases of uncomplicated diabetes and diabetic angiopathy and II group ($n=13$) - diabetes with severe vascular lesions (retinopahty, nephropathy, hypertension). Optical density AF was lower in the II group ($M=0,120\pm 0,05$), than in the I ($0,172\pm 0,04$). Low ACTG and cortisol levels were found out in FB in the II group ($M=29,2\pm 7,4$ pg/ml and $M=69,01$ nmol/l), in compare with ACTG concentration $M=64,3\pm 34,3$ pg/ml and cortisol - $M=128,7\pm 52,8$ nmol/l in the I group. At the same time fetal hyperinsulinemia in the II group was more significant. The C-peptide mean levels were: in the I group - $0,69\pm 0,27$ pmol/l and in the II group - $1,22\pm 0,45$ pmol/l. Optical density AF was significantly associated with fetal ACTG and cortisol levels ($r=0,537$ and $r=0,490$, $p<0,05$). There was inverse correlation between AF optical density and C-peptide levels in FB ($r=-0,532$, $p<0,05$). Five newborns from the II group had pulmonary disorders after delivery.

Conclusions: This study found out that fetal pulmonary maturation is different in different classes of diabetes. Severe vascular lesions of maternal insulin-dependent diabetes have been associated with delayed fetal lung maturity. High fetal insulin levels play negative role in pulmonary phospholipid metabolism. ACTG and cortisol accelerate functional lung maturation and alveolar stability and stimulate surfactant synthesis. Insulin showed antagonism in ACTG and cortisol action on fetal lung maturation.