Long-term Cognitive Outcome of Children from Dexamethasone-treated Pregnancies
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INTRODUCTION

Up to present synthetic glucocorticoids have no alternatives worldwide in preventing distress syndrome in newborns at preterm delivery risk1 and virilisation treatment in CAH-female fetus2.

In Russia from 2003 to 2012 glucocorticoids (dexamethasone) have been listed in the standard therapy of pregnancy noncarrying risk of hyperandrogenism women3.

The experimental data from animal studies show that prenatal exposure to synthetic glucocorticoids leads subsequently to permanent consequences in offspring: high risk of metabolic syndrome development, modifications of behavior and cognition4.

Long-term studies of possible outcomes of prenatal glucocorticoid treatment on children health are lacking and their results are contradictory2,5.

OBJECTIVES

To study possible long-term effects from glucocorticoids-treated pregnancies on children cognition at early and school ages.

MATERIAL & METHODS

Inclusion Criteria: prenatal DEX-exposure at gestation period in the pregnancy case history, informed consent.

Exclusion Criteria: CNS organic lesion, urgent status at the moment of examination, refusal to participate in the research.

Statistics: compared variables in the independent groups by Student t-test and χ2 test. To compare more than two independent samples: Kruskall-Wallis test. To analyze correlations between the variables: Spearman’s test (r).

RESULTS

No development differences in the DEX-treated group and the controls were determined per the research data on children neuropsychic development at an early age. By contrast, significant differences of intellectual quotients of school-aged children have been revealed in the DEX-treated group vs the controls.

CONCLUSIONS

1. Prenatal DEX-exposure at an early gestation leads to significant long-term negative effects on intellectual ability of primary school-aged children: decline of speech development level (p = 0.005), verbal logical thinking (p = 0.0003), volitional attention formation (p = 0.01), and organizational, monitoring activity (p = 0.01).

2. The level of general intelligence of children whose mothers have been treated with dexamethasone in I and II trimesters of pregnancy is considerably lower than that of children from the controls (p = 0.004; p = 0.0005 respectively).

3. No differences of cognitive development between children, prenatally treated with dexamethasone in III trimester, and the controls have been observed.

REFERENCES