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Poster Presentations

P-83

The effect of different concentrations of cerium oxide during pregnancy on ovarian follicle development in neonatal mice

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Background: Cerium is one of the rare chemical elements of earth and belongs to the Lanthanides group. The most commonly used commercial compounds of cerium are cerium oxide and are widely used in human life.

Objective: In this study, we investigated the effect of different doses of Cerium (IV) oxide (CeO_2) during pregnancy on neonatal mice ovaries, as well as its effect on blood biochemical parameters**.**

Materials and Methods: Thirty pregnant NMRI mice were divided into five groups: Control and 4 groups treated with CeO_2 (10, 25, 80, 250 mg/kg.bw i.p) at the Gestational day 7 and Gestational day 14. Postpartum, the ovarian histological of neonatal (2 and 6 day-olds), as well as blood serum of neonates at 15-dpp were analyzed.

Results: Count ovarian primordial follicles in neonates at 2 dpp showed a significant decrease in the groups treated with 80 and 250 mg/kg.bw doses of CeO_2, and ovarian primordial and primary follicles in neonates at 6-dpp at 250 mg/kg.bw doses of CeO_2 into control there was a significant decrease ($p < 0.05$). There was no significant difference in serum levels of Malondialdehyde and Total antioxidant capacity between the experimental and control groups.

Conclusion: Our results suggest the effects of CeO_2 on the ovarian tissue of neonatal mice during pregnancy may depend on the dose.

Key words: *Cerium oxide, Malondialdehyde, Neonate, Ovarian.*

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