**Vaccinium Ashei reade** extract ameliorates follicular viability and ovaries damage induced by cadmium.

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**INTRODUCTION:** Cadmium is a toxic metal widely used in industry and it is absorbed in significant quantities in cigarette smoke. Studies have shown toxic effects of this metal on reproductive system, especially related to oxidative stress. Therefore, antioxidants could be one alternative therapy of cadmium intoxication. Rabbiteye blueberry (*Vaccinium Ashei reade*) is a nutraceutical which presents antioxidant proprieties. **OBJECTIVE:** We evaluated the protective role of hydro-alcoholic blueberry extract on follicular viability and ovarian damage induced by sub-chronic cadmium exposure in mice. **MATERIALS AND METHODS:** Blueberries (250 mg) were macerated, mixed with 100 ml of hydro-alcoholic solution (4:1 water:ethanol) and filtered. Female adult Swiss mice received subcutaneously CdCl₂ (2.5 mg/kg) and 30 min later received orally blueberry (2.5 mg/kg) five times weekly for 3 weeks. After 24h of the last treatment, the animals were euthanized and the ovaries were removed. The supernatant obtained was used to evaluate the glutatione-S-tranferase (GST) activity and reactive species (RSs) levels. In addition, we evaluated the follicular viability and cadmium content. **RESULTS AND DISCUSSION:** GST activity demonstrated no significant difference between groups. Cadmium exposure caused a cadmium accumulation (12 fold) as well as an increase in the RSs levels (112%) in ovarian tissue. In addition it decreased to 30% the follicular viability in relation the control group. Blueberry was not effective in decreasing the metal accumulation, however it was able to restore the RSs levels at control levels and the follicular viability to 60%. This effect could be attributed to the antioxidants proprieties of hidro-alcoholic blueberry extract. **CONCLUSION:** In this study, we verified that cadmium accumulates in ovarian tissue decreasing the follicular viability. Blueberry therapy was not effective in protecting against cadmium accumulation, however it was able to restore the RSs levels increase and the follicular viability.

Keywords: Cadmium, blueberry, ovary, follicular viability.