

عنوان مقاله:

Resveratrol supplementation rescues pool of growing follicles and ovarian stroma from Cisplatin-induced toxicity on the ovary in Sprague-Dawley rats: An experimental study

محل انتشار:

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نویسندگان:

Gbotolorun Stella Chinwe - *Ph.D. Anatomy Department, College of Medicine of the University of Lagos, Lagos State, Nigeria*

Okafor Izuchukwu Azuka - *M.Sc Anatomy Department, College of Medicine of the University of Lagos, Lagos State, Nigeria*

Ndoeche Chidinma Adaeze - *M.Sc. Anatomy Department, College of Medicine of the University of Lagos, Lagos State, Nigeria*

خلاصه مقاله:

Background: Cisplatin is a potent antineoplastic agent for many cancers but causes several levels of gonadal damage. Ovarian toxicity is a major concern of young cancer patients undergoing chemotherapy. Objective: This study sought to examine the effect of Cisplatin and Resveratrol supplementation on ovarian function in Sprague-Dawley rats. Materials and Methods: In this experimental study, 45 cyclic Sprague-Dawley rats with an average weight of 160 gr were divided into 9 groups (n=5/group). Group 1 was used as control and received distilled water. Groups 2 and 9 received Cisplatin only. Groups 3, 4, and 5 received different doses of Resveratrol after a single dose of Cisplatin. Groups 6, 7, and 8 received Resveratrol before Cisplatin. At sacrifice, the ovary was analyzed for histopathology, biochemical indices of oxidation and hormonal assay. Results: Relative and absolute organ weights were notably increased ($p=0.001$, 0.01) in the prophylactic groups relative to the groups that received Resveratrol after Cisplatin. Also, glutathione, superoxide dismutase and catalase were significantly increased ($p=0.047$, 0.01 , 0.023) in a dose-dependent manner when compared to Cisplatin group only. Malondialdehyde decreased significantly ($p=0.001$) in the groups that received high dose Resveratrol compared with the control and Cisplatin alone groups. Although oestrogen showed no significant difference within the groups ($p=0.48$), Resveratrol significantly increased progesterone, follicle stimulating hormone and luteinizing hormone levels ($p=0.007$, 0.001 , 0.006) at high doses when compared with Cisplatin alone groups. Ovarian histoarchitecture was best preserved in the prophylactic groups in a dose-dependent manner. Conclusion: Resveratrol supplementation confers protection and preserves ovarian follicles from Cisplatin toxicity in Sprague-Dawley rats

کلمات کلیدی:

Cisplatin, Ovary, Resveratrol, Sprague-Dawley rat

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