

عنوان مقاله:

The Effect of Cadmium on Apoptotic Genes mRNA Expression of Bax and Bcl-2 in Small Intestine of Rats

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خلاصه مقاله:

Background: Cadmium is a potent toxicant and carcinogenic in human and experimental animals. The evidence indicates that cadmium induces aberrant gene expression, inhibition of DNA damage repair, and apoptosis. In this study, we investigated the effects of IP (intraperitoneal) injection of cadmium on mRNA levels expression of Bcl-2 and Bax genes in rat small intestine. Methods: 28 male Wistar rats weighing 200 to 250 grams were randomly distributed into 4 groups. Group 1 received saline while the animals in groups 2-4 were injected cadmium at doses of 1, 2 and 4 mg/kg of cadmium for 15 successive days. One day after the last injection, the small intestine was dissected and the mRNA levels expression of Bax and Bcl-2 genes was evaluated using Real Time PCR technique. Results: Cadmium increased the mRNA levels of Bax gene compared to the control group at 2 and 4 mg/kg ($p < 0.01$) in small intestine of rats. The mRNA levels of Bcl-2 gene decreased significantly compared to the control group at 1, 2 and 4 mg/kg ($p < 0.001$) in small intestine of rats. Conclusion: These results showed Cadmium exposure induced cell apoptosis by increasing Bax/Bcl-2 ratio expression.

کلمات کلیدی:

Cadmium, Bax, Bcl-2, Small Intestine

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