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C- REACTIVE PROTEIN AND ROS PROMOTES CHRONIC OCHRATOXIN- INDUCED NEPHROTOXICITY IN MICE

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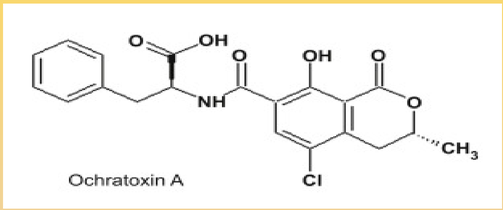
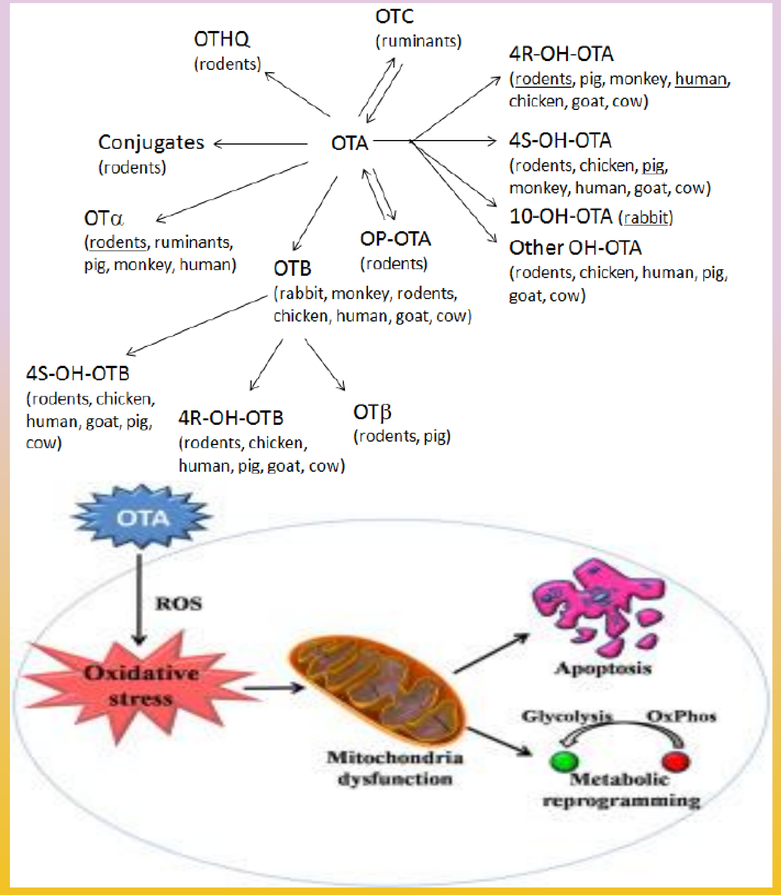


Ochratoxin A

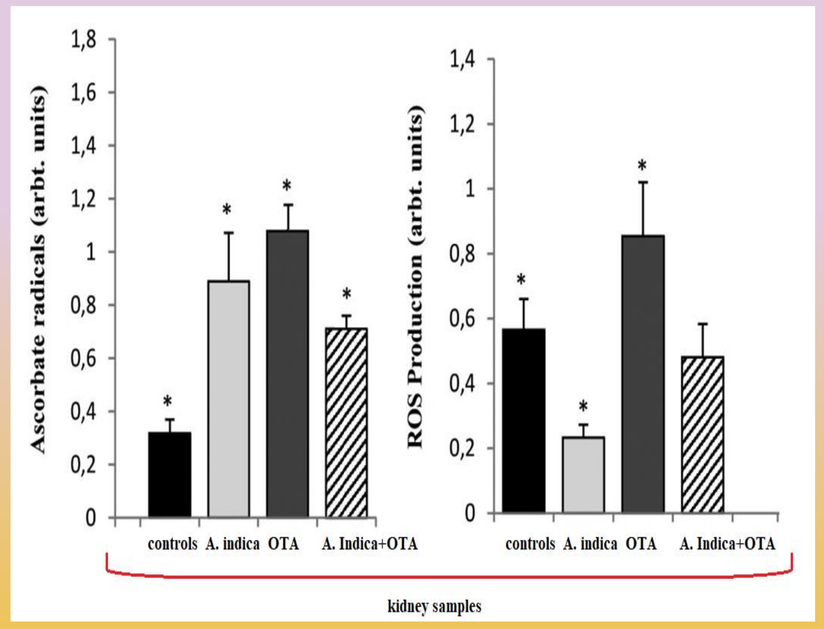
Introduction

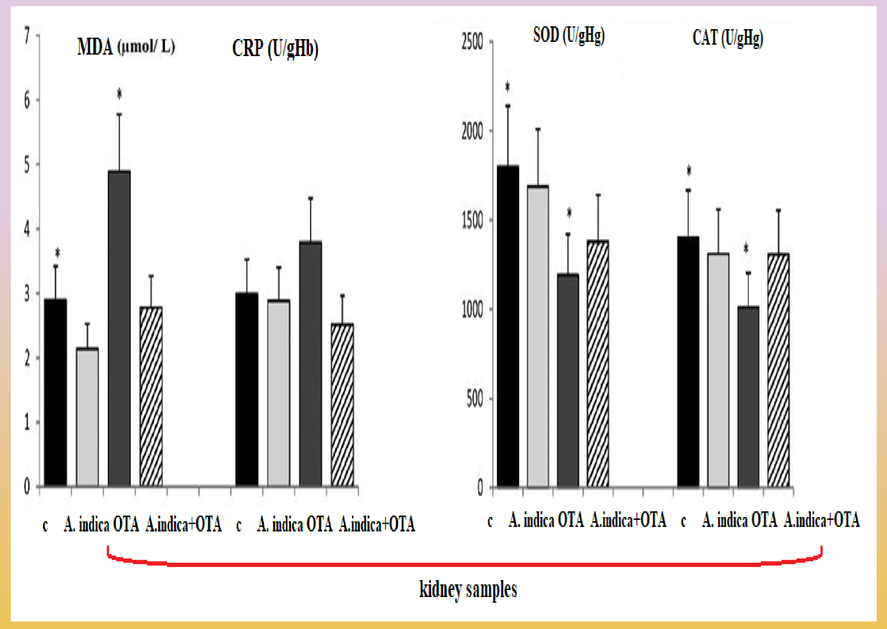
Nephrotoxicity induced by Ochratoxin A (OTA) and ameliorating effects of Azadirachta Indica oil were investigated in mice chronically exposed for 28 days to OTA. Experimental groups were as follows: a) control; b) OTA -treated; c) Azadirachta Indica oil treated; and d) OTA plus Azadirachta Indica oil treated (OTA-A. indica oil). The mice in the control group were administered with only a daily oral administration of 0.9% sodium chloride solution. OTA was administered 1.25 mg/kg b.w., i.p., given in every two days. Azadirachta Indica oil was administered 120 mg/kg b. w. i.p., in every two days. A. indica (120 mg/kg b.w., i.p.) administered 2h prior to OTA-administration. By the end of the chronic OTA-nephrotoxicity experiment, no mortality was observed in the study groups. Levels of C-reactive protein (CRP) and reactive oxygen species (ROS) were examined in renal tissue by ELISA assay and electron paramagnetic resonance spectroscopic method. OTA-exposure resulted in significant increases in C-RP ($p<0.05$) and ROS levels ($p<0.04$) compare to controls, which is associated with increased risk of chronic kidney disease.. The results obtained in the groups with the oxidative-protective action of A. indica and the combination of A. indica + OTA inhibited OTA-induced nephrotoxicity by statistically significantly reduced values of reactive protein ($p <0.000$), ROS production ($p <0.005$) and endogenous antioxidant activation. Renal damage was evaluated using CRP assays and ROS products analys. We showed that A. indica preserved renal function and decreased renal oxidative damage. Therefore, A. indica oil prophylaxis may be an interesting strategy for the prevention of nephrotoxity.

Keywords: nephrotoxity, Ochratoxin A, Azadirachta Indica oil, CRP, ROS



Results





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