

P74. THE TESTICULAR AND HEPATIC APOPTOTIC EFFECTS OF AROCLOR 1254 IN SELENIUM SUPPLEMENTED AND SELENIUM DEFICIENT RATS

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The aim of the current study was to determine the apoptotic effect of Aroclor 1254, a polychlorinated biphenyl (PCB), on the testis and liver of selenium supplemented and selenium deficient rats. Selenium deficiency was generated by feeding 3-week old Sprague Dawley rats with ≤ 0.05 Se mg/kg diet for 5 weeks. Selenium supplementation group were on 1mg Se/kg diet. Aroclor 1254-treated groups received 10 mg/kg dose by gavage during the last 15 days of feeding period. Apoptotic cell death was determined with terminal deoxynucleotidyl transferase (TdT)-mediated deoxyuridine triphosphate nick end-labeling (TUNEL) assay. The diet with excess selenium did not cause any appreciable alteration in hepatocyte and germ cell apoptosis. Selenium deficiency caused significant enhancement in cell death of both hepatocytes (~1.5-fold) and germ cells (~2.3-fold). Aroclor 1254 markedly induced apoptosis in rat hepatocytes (~2.7-fold) and germ cells (~10-fold). Selenium deficiency with Aroclor 1254 treatment was found to aggravate both hepatocyte and germ cell apoptosis while selenium supplementation along with Aroclor 1254 was partially protective. These results put forward the critical role of Se in the modulation hepatocyte and germ cell apoptosis and emphasize the importance of Se status for hepatic and testicular health.