Abstract

To evaluate the effects of the cadmium (Cd) administration at different gestation times, 24 rats were mated under standard rearing conditions. After pregnancy confirmation, rats were randomly assigned to 4 treatment groups. Experimental groups received a subcutaneous dose of 10 mg Cd per kg of body weight at the day: 7 Group I (GI); 9 Group II (GII) and 11 Group III (GIII) of pregnancy. The control group (Group IV - GIV) received an equivalent volume of saline solution. On day 20 post-conception, all rats were sacrificed. Samples of liver, kidney, spleen, lung, placenta and fetuses were collected to determine Cd concentration and for histological studies. The results were analyzed statistically (ANOVA and Student’s t test). In the organs and fetuses of rats from GI; GII and GIII, Cd concentrations were significantly higher than in the control (P<0.05). In Cd-treated groups, were observed: kidneys with picnotic nuclei in tubules of the renal cortex; liver with multifocal leukocytic infiltrate, cellular vacuolization in the centrolobular zone; lungs with atelectasis and alveolar emphysema; placentas with picnotic nuclei, fibrinoid deposits and infiltration of granulocytes. Bone lesions were observed in fetuses, such as limb, tail and skull bones agenesis. statistically (ANOVA and Student’s t test). In the organs and fetuses of rats from GI; GII and GIII, Cd concentrations were significantly higher than in the control (P<0.05). In Cd-treated groups, were observed: kidneys with picnotic nuclei in tubules of the renal cortex; liver with multifocal leukocytic infiltrate, cellular vacuolization in the centrolobular zone; lungs with atelectasis and alveolar emphysema; placentas with picnotic nuclei, fibrinoid deposits and infiltration of granulocytes. Bone lesions were observed in fetuses, such as limb, tail and skull bones agenesis.

Keywords
Rats, cadmium toxicity, maternal organs, pregnancy, fetuses.