P24 Changes of blood pressure and Hematological changes induced by exposure of low- and high-level lead in the rats

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The physiological responses caused by exposure of high- and low-level lead exhibit different phase. Low-level lead exposure can produce continuous hypertension, but high-level lead can exert two phasic effects in the development of hypertension.

In this study it was tested which difference can be caused as lead levels and, if it can be caused, whether hematological changes are related with the hypertensive effects induced by different levels of lead exposure was tested. Lead intoxication in male SD rats was induced by exposure through drinking water containing 50, 200 and 1000 ppm lead(as lead acetate). The animals of control group was supplied drinking water containing sodium acetate *ad libitum*. The number of each animal group was 10. Systolic blood pressures were measured in the unanesthetized state by the tail-cuff technique at 0, 3, 7 and 16 weeks. RBC, WBC, MCV, hemoglobin, hematocrit and whole blood viscosity levels were examined.

Rats receiving 50 ppm lead (in both 7 and 16 weeks treatment group) developed significant elevation of systolic blood pressure at 7 weeks after treatment but normalized at 16 weeks. At 200 ppm lead treatment group, systolic blood pressure increased 3, 7 and 16 weeks. While the whole blood viscosity in all lead treated rats increased in all of lead treatment periods.

This result suggests that hematological changes in the hypertensive rat induced by lead intoxication did not affect on the difference of changes of blood pressure.