

研究简报

铅染毒大鼠血液中铅与其他元素含量的相关性研究

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收稿日期 2009-2-25 修回日期 2009-6-5 网络版发布日期:

摘要 研究了铅染毒大鼠血液中铅与其他元素之间的关系。选取75只健康的4周龄雄性Sprague Dawley大鼠(SD大鼠), 随机分为25组, 各组染毒剂量均不相同。在实验开始的第40、80、120天, 分别从各组中随机选取1只大鼠, 乙醚麻醉后取股动脉血。用电感耦合等离子体质谱(ICP-MS)法测定血中的24种元素含量, 并对铅与其他元素做相关分析。研究发现: 在不同染毒周期, 染毒剂量与血铅浓度的关系各有不同。血铅浓度随染毒时间的延长而升高, 但染毒剂量在5~70 mg•kg⁻¹时, 80天染毒组的血铅浓度反而高于120天染毒组; 血铅与其他元素含量的相关性随染毒周期的变化而变化。

关键词 [电感耦合等离子体质谱 \(ICP-MS\)](#) [相关性](#) [铅染毒大鼠](#) [血铅](#) [元素](#)

分类号 [O 657.63](#)

Correlation Research between Lead and Other Elements in the Blood of Lead-Exposed Rats

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Abstract The correlative characteristics between lead and other elements in the blood of rats exposed to lead were studied. Totally 75 healthy 4-week-old male Sprague-Dawley rats (SD rats) were randomly divided into 25 groups. Doses of lead acetate were different in terms of group s respectively. One rat each group was selected randomly at the beginning of the experiment stage of 40, 80, 120 days. Under ether anesthesia, blood was obtained from femoral artery. Concentrations of 24 elements in the blood were determined by inductively coupled plasma mass spectrometry (ICP-MS), and correlation analysis was done between Pb and other elements. The results indicate that the relation between exposure doses and concentration of blood lead are different at different exposure stages. With the increase of the exposure time the concentration of blood lead is rising. However, at the exposure dose of 5-70 mg•kg⁻¹, the concentration of blood lead in the 80-day exposure group is higher than 120-day exposure group. Correlation of concentration of blood lead and other elements changes at different exposure cycle.

Key words [inductively coupled plasma mass spectrometry\(ICP-MS\)](#) [correlation](#) [lead exposed rats blood lead elements](#)

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