

论著

三价铬和六价铬对大鼠长期慢性毒性的比较

考庆君¹ / 吴坤² / 邓晶¹ / 谢立¹ / 孙昼¹ / 黄仁杰¹

1. 杭州市疾病预防控制中心, 2. 哈尔滨医科大学公共卫生学院

收稿日期 2007-5-22 修回日期 2007-7-25 网络版发布日期:

摘要 背景与目的: 比较三价铬(CrCl₃)和六价铬(K₂Cr₂O₇)对大鼠长期慢性毒性。材料与方法: 采用90 d 喂养实验。Wistar大鼠按10%LD₅₀、6%LD₅₀、2%LD₅₀分为高、中、低3个剂量组, 同时设立阴性对照, 染毒90 d后检测血清学指标、脏/体比及组织病理学检测。结果: CrCl₃高剂量组CHO、HDL、TG、Glu与对照组相比显著降低(P<0.05), 其余指标均无显著性差异(P<0.05)。K₂Cr₂O₇高剂量组大鼠体重随着染毒剂量的增加而下降, 与对照组相比降低显著(P<0.05); 高剂量组白细胞计数与对照组相比有显著性升高, 淋巴细胞与对照组相比显著降低(P均<0.05); 血清学指标检测显示, 高剂量组CHO、HDL、TG、Glu与对照组相比显著降低, 而ALT、Cr、BUN与对照组相比则显著升高(P均<0.05)。病理组织学检查显示, K₂Cr₂O₇高剂量组肝脏表现为明显的肝窦扩张, 淤血及少量渗出性出血, 并偶见坏死灶。结论: K₂Cr₂O₇高剂量组对大鼠免疫系统、肝、肾脏有损伤; K₂Cr₂O₇长期慢性毒性明显高于CrCl₃。

关键词 [铬](#); [慢性毒性](#)

The Chronic Toxic Effects of Trivalent Chromium and Hexavalent Chromium on Rats

KAO Qing-jun¹, WU Kun², DENG Jing¹, XIE Li¹, SUN Zhou¹, HUANG Ren-jie¹

1. Hangzhou Center for Disease Control and Prevention, 2. Public Health College, Harbin Medical University

Abstract **BACKGROUND & AIM:** To evaluate the chronic toxic effects of trivalent and hexavalent chromium to rats. **MATERIALS AND METHODS:** Groups were set up on the basis of 10% LD₅₀, 6% LD₅₀, 2% LD₅₀, and the negative control group simultaneously. After ninety days feeding test, the serum and histopathological indexes and the ratio of viscera and body were assessed. **RESULTS:** The CHO, HDL, TG, Glu were significantly decreased in high_dose group of CrCl₃ and control group (P<0.05). The body weight gradual decreased with increasing doses of K₂Cr₂O₇, and the difference were significant compared with control group (P<0.05). The erythrocyte count were significantly higher than that of control group (P<0.05), and lymphocyte were significantly lower. Serum ALT, BUN, Cr were raised but HDL, TG, Glu were decreased in the high_dose group of K₂Cr₂O₇ and were significantly higher than that of control group. Pathological the changes in the high_dose group of K₂Cr₂O₇ showed hepatic sinus dilation and congestion, mild exudative hemorrhage, and focal necrosis was found. **CONCLUSION:** K₂Cr₂O₇ could damage the immunologic system, liver and kidney. The chronic toxicity of K₂Cr₂O₇ was obviously higher than CrCl₃.

Keywords [chromium](#); [chronic toxicity](#)

DOI

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]](#)(296k)

▶ [\[HTML全文\]](#)(41k)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [Email Alert](#)

相关信息

▶ 本刊中 包含“[铬](#); [慢性毒性](#)”的 [相关文章](#)

▶ 本文作者相关文章

· [考庆君](#) [吴坤](#) [邓晶](#) [谢立](#) [孙昼](#) [黄仁杰](#)