

临床研究

接触低浓度苯系物工人血细胞计数和血浆中P16/CDKN2A蛋白含量的变化及其意义

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摘要:

目的:探讨在低于职业接触限值情况下,长期接触苯系物对工人血细胞计数和血浆中P16/CDKN2A蛋白含量的影响情况,为更好地进行苯系物污染的监测和监督工作提供理论基础。方法:选择深圳市某印刷企业从事印刷作业工龄超过2年的50名工人作为接触组,选择企业不接触苯系物的50名行政和后勤工作人员作为对照组。对2组人员进行血常规检测;ELISA法检测接触组和对照组人员血浆中P16/CDKN2A蛋白含量;同时测定接触组工作环境中苯系物的浓度。结果:接触组和对照组工作环境中苯系物浓度均低于职业接触限值;接触组和对照组工人白细胞计数、红细胞计数、血红蛋白含量和血小板计数均在正常范围内,2组比较差异无统计学意义(P>0.05);接触组工人血浆P16/CDKN2A蛋白含量均值低于对照组,但差异无统计学意义(P>0.05)。结论:在低于职业接触限制情况下,长期接触低浓度苯系物对工人血细胞计数和血浆中P16/CDKN2A蛋白含量无明显影响。

关键词: 苯系物; P16/CDKN2A蛋白; 血细胞计数

Changes of blood cell count and P16 /CDKN2A protein content in plasma of workers exposed to low concentrations of benzene series and significance

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Abstract:

Objective Below the national health standards,to observe the changes of the blood cell count and P16 /CDKN2A protein content in plasma of workers who long-term exposed to benzene series,and to provide theoretical basis for better monitoring and supervision in benzene series pollution.Methods 50 workers which worked on operating environment more than 2 years were selected as exposed group in one printing plant in Shenzhen,and 50 administrative and logistic staffs in the same printing plant were used as control group.The inspections were taken on white blood cell count,red blood cell count,hemoglobin content and platelet count in two groups by blood routine examination.The plasma P16 /CDKN2A protein content in two groups were detected by ELISA assay.The concentrations of benzene,toluene and xylene in exposed group in the operating and non-operating environment were determined at the same time.Results The benzene,toluene and xylene levels in exposed and control groups were lower than the national health standards.The white blood cell count,red blood cell counts,hemoglobin contents and platelet counts in two groups were all in normal range and had no significant differences between two groups(P>0.05).The average content of plasma P16 /CDKN2A protein of the workers in the exposed group was lower than that in control group,but there was no significant difference between two groups(P>0.05).Conclusion In the exposure condition,long-term exposure to low concentrations of benzene series has no significant effects on blood cell count and plasma P16 /CDKN2A protein content of the workers.

Keywords:

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