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姜辣素对⁶⁰Co γ辐照小鼠白系细胞和骨髓细胞DNA的保护作用

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摘要:

研究了姜辣素对⁶⁰Co γ射线损伤小鼠白系细胞和骨髓细胞DNA的防护作用。24只健康雌性昆明小鼠随机分为对照组、给药组、照射组和给药照射组。给药组和给药照射组灌胃姜辣素,连续5d,第6天照射组和给药照射组进行5Gy ⁶⁰Co γ射线辐照(剂量率1.2Gy/min),照射后48h所有小鼠采血,取脾脏、肝脏、股骨,进行相关指标测定。给药照射组小鼠脾脏指数极显著高于照射组(P<0.01),GRA和骨髓细胞DNA含量显著高于照射组(P<0.05),骨髓嗜多染红细胞微核数目(P<0.01)和肝脏指数(P<0.05)明显低于照射组;与对照组相比,给药组的脾脏指数极显著升高(P<0.01),骨髓细胞DNA含量有所升高,骨髓嗜多染红细胞微核数目也有所降低。结果表明,姜辣素对⁶⁰Co γ射线照射造成的小鼠白系细胞和骨髓细胞DNA损伤具有防护作用。

关键词: 姜辣素 辐射损伤 白系细胞 骨髓细胞 防护

PROTECTIVE EFFECT OF GINGEROL ON LEUCOCYTE AND BONE MARROW DNA OF ⁶⁰Co γ-RAYS IRRADIATED MICE

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Abstract:

In this artical, the effect of gingerol on peripheral leucocyte and bone marrow DNA of ⁶⁰Co γ-rays irradiated mice was developed., Twenty-four healthy female Kunming mice were randomly divided into 4 groups: control, gingerol, irradiation and gingerol+irradiation group. Gingerol group and gingerol+irradiation group were given gingerol intragastrically once a day for five days. Irradiation group and gingerol+irradiation group were suffered from 5Gy ⁶⁰Co γ-rays irradiation at the rate of 1.2 Gy/min on the 6th day. Blood samples, spleens, livers and thigh bones were collected to be measured after 48h. The results showed that, compared with irradiation group, gingerol +irradiation group had significantly higher spleen index (p<0.01), higher counts of GRA as well as thigh bones DNA (p<0.05), while MN numbers of PCE cells (p<0.01) and liver index (p<0.05) were lower. Compared with control group, the relative spleen index (p<0.01) and DNA content of bone marrow increased, and MN numbers of PCE cells decreased in gingerol group. These findings demonstrated that the gingerol has the protective effects on leucocyte and bone marrow DNA of ⁶⁰Co γ-rays irradiated mice.

Keywords: gingerol irradiation damage leucocyte bone cells protection

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