

食管癌病人放射治疗时外周淋巴细胞微核率的变化以及和染色体畸变率的关系

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摘要 在辐射诱发的染色体畸变中,除了倒位和相互易位外,几乎都伴有断片的产生。在间期细胞中,这种染色体断片呈现为大小不等的圆形或椭圆形结构,称为微核。观察微核率的变化,称为微核测定。近年来,由于微核测定具有方法简便、观察迅速、鉴别比较容易等一系列特点,在辐射损伤的诊断[1]、辐射防护药的筛选[2.5]、辐射的细胞遗传学效应研究等工作中,它的应用正日趋普遍。为了正确评价微核测定在放射医学中的应用价值,首先要了解微核率的剂量—效应关系。云南动物研究所的工作已经指出,在一次全身照射条件下,小鼠、大鼠的骨髓细胞或外周淋巴细胞微核率和照射剂量均成线性正比关系[1.3]。本文首次报道在局部分次照射条件下,人类外周淋巴细胞微核率和累积剂量呈线性正比关系,微核率和染色体畸变率并有一定的依从关系。

关键词

分类号

THE FREQUENCY OF MICRONUCLEI IN PERIPHERAL LYMPHOCYTES AND ITS RELATIONSHIP TO CHROMOSOME ABERRATIONS IN RADIATION TREATMENT OF PATIENTS WITH OESOPHAGEAL CANCER

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Abstract

The production of micronuclei in lymphocytes was observed in 38 patients with oesophageal cancer who had received fractionated local radio-therapy. The cumulative dose varied from 2,000 to 10,000r. The frequency of micronuclei increased with increasing cumulative dose and the dose-effect relationship was prominent. At the same time, the incidence of chromosome aberrations also increased in proportion to the radiation dose. The micronuclei recognition is technically much easier than metaphase analysis of mitotic chromosomes and the results of our experiment have shown that the correlation between micronuclei and aberrations is statistically significant. The substitution of the micronuclei assay for scoring the chromosome aberrations, at least to some extent, is advisable.

Key words

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