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**ENHANCEMENT OF FREQUENCY OF RADIATION-INDUCED
CHROMOSOME ABERRATIONS AND MICRONUCLEI BY
ARA C AND 3AB**

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In order to determine the effect of the DNA repair inhibitors, cytosine arabinoside(Ara C)and 3-aminobenzamide(3AB) on the frequencies of chromosomal aberrations and micronuclei induced by radiation.

After in vitro exposure of human lymphocytes to x-ray(1-3Gy) DNA repair inhibitors, Ara C and 3AB were treated and the frequencies of micronuclei, translocation and dicentric chromosomes were analysed using FISH technique with DNA probe for chromosome 4.

The frequencies of x-ray induced exchange chromosomal aberrations such as dicentric and translocation and MN were increased in a dose-dependent manner($p=0.000$).

The poly(ADP-ribose) polymerase inhibitor, 3AB increased the frequencies of micronuclei and dicentric chromosomes while no influence in the frequency of translocation was observed. Ara C which inhibits DNA polymerase α and δ , on the other hand, increased the frequencies of dicentric, translocation and micronuclei. Our data also showed that the frequencies of chromosomal aberrations and micronuclei by Ara C were greater than those by 3AB.

Since the formations of dicentric, translocation and micronuclei may originate from the inhibition of repair of x-ray induced DNA lesions, our results suggest that there may be different misrepair process leading to chromosomal aberrations and micronuclei.

keyword : radiation, chromosomal aberration, micronuclei, Ara C, 3AB