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CHROMOSOMAL ABERRATIONS IN SUBJECTS EXPOSED TO IONIZING RADIATION

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Occupational exposure is particularly delicate because of chronic exposure to low doses of ionizing radiation and its cumulative effect, where it is important to consider the biological response of body to given conditions of exposure. The objective of this study was the observation of the recovery of the DNA damages in subjects working in the radiation area in two different intervals. Group I, consisting of 30 subjects, was exposed to ionizing radiation and unstable chromosomal aberrations were identified. Group II included the same, re-examined subjects (30) 9 months later. It was verified that 5 (16.67%) subjects still had unstable chromosomal aberrations, although they had been excluded from radiation area. Controls groups (C) consisted of 64 subjects that were not exposed to mutagenic agents. The comparison of the control group with the two studied groups revealed the reduction of the unstable aberrations ($p < 0.05$). The total effective doses, which increased with the years spent in radiation area, reflected the yield of chromosomal aberrations. The presence of chromosomal aberrations in some subjects, after the exclusion from the ionising radiation exposure, suggests that the time needed for the recovery of the DNA damages is different, which indicates the individual differences in radiosensitivity as well as different of the reparatory cellular response.