SOME FACTORS AFFECTING Co^{60} RADIOSENSITIVITY OF MICE*

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Biological radiation response in laboratory animals can be modified by different endogenous and exogenous factors. We conducted the present study in an attempt to clarify the possible association between factors like age, sex, dose, dose rate, time of the year and the radiosensitivity of albino heterozygous mice. Animals were kept in a natural light cycle under standard laboratory diet and top water ad libitum. A total of 771 animals (435 females and 336 males; 548 irradiated and 223 controls) were used in this study divided in 32 experiments. The mouse age range was between 7 and 24 weeks at irradiation time. The experiments were performed during several years clustered in 10 months of each year. The mice were exposed to whole body ^{60}Co gamma irradiation by single doses of 8, 8.5 or 9 Gy at dose rate ranged from 8.2 to 4.1 Gy/min. Means of 30-day-survivals were compared using statistical analysis. In the present conditions, no differences in radiosensitivity were found among both sex. On the contrary, some statistically significant differences were found when dose or dose rate were compared. Ambiguous results were found when mouse age was analyzed. These results reinforce the necessity of a proper radiation dose and dose rate determinations when experiments about radiosensitivity from different laboratories are compared.

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