

The efficacy of radiation treatment of cancer is inhibited by the lack of comprehensive knowledge of the radiation injury of normal human organs. Furthermore, no comprehensive data is available on normal human tissue sensitivity. The cell population kinetic parameters are derived from either the multi-target or linear quadratic models. The mean lethal dose for radiation injury of normal human tissues will be assessed with organ weight of 70-kg reference human being and spin lattice relaxation time (T1) values. The mean lethal dose values correlates very well with the organ weight. It is indeed interesting to note that T1 against mean lethal dose of normal human organs yields a good correlation. Results indicate that as the organ weight increases, mean lethal dose decreases. Similarly, as the mean lethal dose increases spin-lattice relaxation time increases. It appears that the overall metabolism of the organ can not be independent of weight, neither is the mean lethal dose nor the spin-lattice relaxation time.