Comparative Study of Growth Rate of Ehrlich Ascites Carcinoma by Various Methods

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Various methods estimating the growth rate of the ascites carcinoma are available; a comparative study of these methods was done.

First, 10,000,000 Ehrlich cancer cells were inoculated into the peritoneal cavities of dd-stain mice, weighing 20 g each. At daily intervals after the second day of inoculation, groups of animals were decapitated and the ascites was collected; volumes were measured, ascites cancer cells were counted and the total amounts of DNA of the ascites cancer cells were determined. The difference between the body weight before the inoculation and after removing the ascites was compared with the volume of ascites.

The estimation of the volume of ascites was compatible with the difference of the body weight before and after inoculation. A small difference of the body weights of the animals was due to the amount of food taken in or to their growth. When plotted on a graph, the numbers of cancer cells had a straight line relation to the volumes of ascites. Therefore, it is reasonable to assume that the volume of ascites is correlated to the number of cancer cells. There is a better correlation between the amount of DNA and total number of cancer cells than between volume of ascites and total number of cancer cells. The DNA content per cancer cell was constant throughout the experiment. The total number of cancer cells can be calculated if the total DNA is known.

187. 種々の測定法によるエールリッヒ腹水癌の増殖度の比較

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