

The effects of irradiation with ^{106}Ru and ^{125}I on the growth and metastases of experimental melanoma

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The effect of two different kinds of ionizing radiation: β -rays (^{106}Ru , 3.54 MeV) and α -rays (^{125}I , 35.4 keV) on melanoma implanted into the hamsters eye were investigated. Tumors growing in the anterior chamber were irradiated with 3 and 6 Gy in four equal fractions at 24 hours intervals. The short-time irradiation effects (primary tumor growth) and long-time effects (metastases) were examined in the experiments. ^{125}I was more effective in both, delaying of the tumor growth and decreasing the metastatic spread in comparison with ^{106}Ru . It was observed that in the case of low doses of β -irradiation the mass of metastases increased in comparison with control (untreated animals). The factors affecting different biological effectiveness of two tested radiation emitters are briefly discussed.