

Imaging of incipient metastases and their treatment, using radiosensitive liquid-core nanocapsules

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Abstract

The imaging of incipient metastases and their treatment, using radiosensitive liquid-core nanocapsules, *IN VIVO* in C3He/N mice.

Nanocapsules were prepared by spraying a mixture of 4.0% alginate, 3.0% hyaluronic acid, and 1 μ g E[c(RGDfK)]₂ (α v β 3 antibody) into 0.5 mmol FeCl₂ and CaCl₂ supplemented with 5mg of Carboplatin (Pt-containing anticancer drugs). Cells of MM48 (α v β 3+), a highly metastatic tumor were inoculated in the left hind legs of C3He/N mice. The nanocapsules were intravenously injected, and their kinetics and accumulation to incipient metastatic foci were observed using CT. and PIXE. At the time of maximum accumulation of nanocapsules, the radiation was given.

The accumulated nanocapsules released Carboplatin, which decreased the number of incipient metastases synergistically with radiation.