

Therapeutic efficacy of ¹⁸⁸Re-human serum albumin microsphere in GP7TB hepatoma model via intra-arterial route

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The aim of this study was to investigate the therapeutic efficacy of intra-arterially administrated ¹⁸⁸Re-human serum albumin microsphere (¹⁸⁸Re-HSAM) in the GP7TB hepatoma model. Male F344 rats were done with intrahepatic inoculation with GP7TB 1 mm³ cubes. These studies were performed on rat at 26 d after tumor inoculation. The efficacy of ¹⁸⁸Re-HSAM was performed by a single-dose treatment in GP7TB hepatoma rat via intra-arterial route. Rats were checked for survival every day until death. The body weight was measured once a week. In efficacy study, the median survival time for the rat (n=3), which received normal saline was 80 d. The median survival times for the mice treated with 10 mCi (n=3), 4.8 mCi (n=3) and 2.9 mCi (n=3) of ¹⁸⁸Re-HSAM were 130 d (P=0.003), 90.25 d (P=0.035) and 83.5 d (P=0.617), respectively. The increase in life span of 10 mCi, 4.8 mCi and 2.9mCi of ¹⁸⁸Re-HSAM were 62.5%, 12.8% and 4.4% respectively. The therapeutic studies of ¹⁸⁸Re-HSAM demonstrated better survival time and therapeutic efficacy for rat with increased dose in the GP7TB hepatoma model. These results suggested that intra-arterial administration of ¹⁸⁸Re-HSAM could provide a benefit and promising strategy for delivery of radiotherapeutics in oncology applications.

Biography

Liang-Cheng Chen is the Assistant Researcher of Isotope Application Division in Institute of Nuclear Energy Research. His major work is to investigate the preclinical animal study for drug efficacy, pharmacokinetics, dosimetry, molecular imaging and toxicology.