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Antitumor activity of lyophilized liposomal formulation OR-2011 on an experimental tumor model of Lewis lung carcinoma

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Objectives: High specific activity has been identified by screening the potential anticancer agents in the substance OR-2011 from the Nitrosourea class which was synthesized at the Institute of Organic Synthesis. I.J Postovsky, Ekaterinburg. A new lyophilized liposomal formulation (LLF) OR-2011 was developed for specialized and profound preclinical studies in I.M. Sechenov First Moscow State Medical University and in N.N. Blokhin Russian Cancer Research Center. The purpose of the study was a comparative study of the antitumor activity of a substance OR-2011 and OR-2011 LLF in an experimental model of Lewis lung carcinoma tumors.

Materials & Methods: We used in our work the model mice BDF1 (C57Bl / 6 x DBA / 2). Determination of the specific activity of OR-2011 was carried out on solid tumors epidermoid transplanted Lewis lung carcinoma (LLC) grafted under the skin of the mouse. Treatment started after 48 hours of tumor transplantation, we injected drugs intravenously into the eyes retro-orbital sinus once at doses of 150 - 300 mg / kg. The specific activity of OR-2011 was evaluated according to standard criterias: Tumor growth inhibition (TGI,%) and increased life expectancy (ILE,%).

Results & Conclusions: Substance OR-2011 at doses of 150 -200 mg/kg and the administration mode used in tumor-bearing mice inhibited dose-dependently, significantly and continuously the tumor growth of subcutaneous nodes (TGI 53-100%). LLF OR-2011 was administered to the mice intravenously once on day 2 of experiment at dose 200 mg/kg, also significantly and continuously inhibited the tumor growth (TGI 74-100%). The obtained results permit to recommend developed LLF OR-2011 for further preclinical studies with the aim of creating a new antitumor agent.

Biography

Basel Albassett has completed his PhD in pharmaceutical technology from I.M. Sechenov First Moscow state medical university. He is faculty of pharmacy at Voronezh state medical University, Voronezh, Russia. His research interests are Nanoparticles, Technology of preparation the liposome and oncology.

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