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Nanotechnology in liver cancer

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Therapies of liver tumors display diverse treatment alternatives. The administration of cytostatic coupled with and without iron oxides (Fe_3O_4) has been presented in an experimental series with 36 animals with prior implantation of an R1H rhabdomyosarcoma in the liver, since iron undergoes selective phagocytosis in the liver. In group I, mitoxantrone is injected into the lateral tail vein of the animals ($n=12$) in a dosage of 1 mg/kg of body weight. Group III ($n=12$ animals) received mitoxantrone coupled with iron oxide (Fe_3O_4), and group II ($n=12$ animals) received NaCl, in the same dosage for all groups. In the sonography and in the measurement of the volume, a significantly smaller tumor growth is found in group II compared with group I and III. The volume was measured manually postmortally in mm³ (length x breadth x height). The tumor volume showed the lowest growth in group II, which was treated with mitoxantrone-coupled iron oxides. Three animals from group II died. The autopsy revealed no indication of the cause of death. There were neither thromboses nor allergic reactions in any of the animals. It can be clearly seen that group I has a smaller mean volume and less scatter than group II. The mean of group I is below group II.

Biography

Manfred George Krukemeyer completed his study of Medicine at University of Vienna, University of Kiel and University of Bonn, Germany. He completed his Resident of Surgery in 1991. He is a board approved certified Surgeon, Emergency Medicine Physician and Nutritionist. His research focuses on Oncology, Nanomedicine and Transplantation. He has more than 50 publications.

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