Mihail-Gabriel Dimofte
gdimofte@yahoo.com
Senior reader in surgery, University of Medicine and Pharmacy "Gr. T. Popa" Iasi | Romania

Chemo-hyperthermal Delivery - Combined chemo-hyperthermal control of hepatic tumors, based on microwave-activated subendothelial-targeted nano-assemblies

Acronym

CheTherDel

Partners

- Corina Veronica Ursulescu | Emergency Hospital "Sf. Spiridon" Iasi | Romania
- Romeo Cristian Ciobanu | "Gheorghe Asachi" Technical University of Iasi | Romania
- Emanuele Papini | University of Padova | Italy
- Brigita Vigante | Latvian Institute of Organic Synthesis | Riga | Latvia
- Alf Lamprecht | University of Franche-Comté | Besancon | France

Abstract

Liver metastasis can be targeted with a variety of non-curative therapeutic methods. We aim to control the malignant disease as a chronically manageable problem. To target the malignant tissue in a selective way we shall use thermal modification of tissue using focal microwaves, that will expose new antigens in the liver structures. We will target these with functional nanoparticles loaded with magnetic particles, which are intended for long term tissue fixation. These particles can produce local heat by external activation, accompanied by local delivery of chemotherapy, using the instability of liposome's loaded with specific chemotherapeutic agents. Using this repeatedly we might be able to induce a highly effective combination of hyperthermia and chemotherapy in a localized area and to minimize systemic effect, for an effective control of liver tumors.