

Title: E-BABE- Chemical Modifications of Magnetic Nanoparticles for Targeted Drug Delivery in Cancer Chemotherapy

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MNPs were investigated for effective cancer therapy, including targeted drug delivery and hyperthermia agents. MNPs were highly recommended on novel cancer therapies over old methods due to their superior properties and less side effects to the human's body. The main advantages of MNPs (organic or inorganic) are that they can be: (i) visualized (superparamagnetic nanoparticles are used in MRI); (ii) guided or held in place by means of a magnetic field; and (iii) heated in a magnetic field to trigger drug release or to produce hyperthermia/ablation of tissue. It is important to point out that the latter capability is not restricted to MNPs, but also to other nanoparticles capable of absorbing near-infrared, microwave, and ultrasound radiations. Magnetic drug delivery constitutes a promising technology to treat cancer, and several products are already on the market. The limitations inherent in the use of external magnetic fields can (in some cases) be circumvented by means of internal magnets located in the proximity of the target by minimally invasive surgery. Magnetic fluid hyperthermia/thermal ablation is also promising and is currently being applied, but is limited by the fact that the tumor needs to be localized. This route, therefore, cannot be used in preventive medicine, or for treating early-stage tumors. But it is a promising path for future researches to fully achieve the high potential of MNPs on biomedical fields.

Biography

In fact, I have been working as a Librarian expert at Shiraz University of Medical Sciences since 2007. As a research librarian on nanomedicine, I have worked with many professors and university students, and now I am now very eager to move forward.My focus is on modern drug delivery system (MDDS), especially on magnetic nanoparticles, and possibility of imaging in vivo models.

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