Abstract:

Doxorubicin and ellipticine belong to the group of chemical compounds with considerable anticancer activity. The mechanism of their effect against tumor cells is complex and leads to DNA damage, cell cycle arrest and apoptosis of tumor cells. The cytotoxic effect of these chemotherapeutic agents is, however, not restricted to tumor cells, but also affects the cells of healthy tissue. The toxic side effects of doxorubicin and ellipticine can be wide-ranging, which limits the use of these drugs in clinical practice. The encapsulation of doxorubicin and ellipticine into nanoparticles allows passive and active targeting of tumor tissue, thereby reducing the negative toxic side effects. Drug delivery in nanotransporters also prolongs the circulation of these anticancer drugs in the blood and increases their therapeutic effect. Nanotransporters suitable for chemotherapeutic transmission have to comply with many criteria and therefore the development of anticancer drugs based on nanoparticles is a long-term process.

Key words:

chemotherapy, anticancer drugs, doxorubicin, ellipticine, nanoparticles, apoferritin