The dissertation thesis "Immunomodulation effects of the hyperthermia in cancer treatment" relates on the hyperthermia as evolving method of the cancer treatment. The first part describes hyperthermia in general, especially physical principles of the heating, the equipment necessary for clinical practice of the hyperthermia, basic effects in biological tissues, clinical indications and results. The second part is brief review of mechanisms antitumor immunological response, with emphasis on antigenicity of tumor cells and effector cells in antitumor response.