

Nanochemistry and biotechnology

Fullerene-silica Nanocomposite in Immunotherapy of Metastasizing Lung Cancer

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The healing of hematogenic metastases which are responsible for high mortality rates of breast and lung cancer patients is a mission of great importance. Here the use of fullerene–silica nanocomposites (FSNC) obtained by chemical anchoring of fullerene C₆₀ on pyrogenic nanosilica surface (Fig.) [1] in Lewis lung carcinoma treatment in mice have been studied. The results (Fig.) clearly show the reliable metastases lowering due to immune system activation by FSNC.

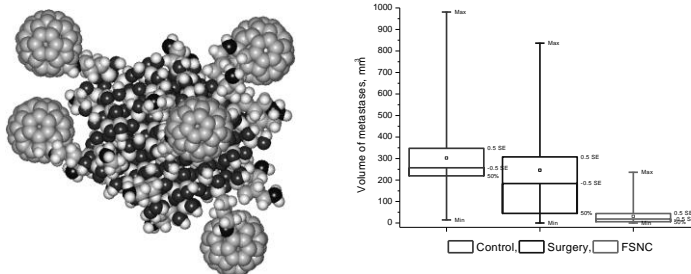


Fig. Molecular model of FSNC particle and metastases volume after treatment.

1. Davydenko M.O., Radchenko E.O., Yashchuk V.M., Dmitruk I.M., Prylutsky Yu.I., Matishevska O.P., Golub A.A. Sensibilization of fullerene C₆₀ immobilized at silica nanoparticles for cancer photodynamic therapy // J. Mol. Liq.-2006.- **127**, - N1-3.- P. 145-147.