electron microscopy, it was shown that in the cases of efficiency of the MF in addition to necrosis, observed also in growing tumors, such types of cell death were marked as apoptosis and autophagy. Numerous signs of activation of cell–cell interactions involved cells of the immune system were revealed. Different groups of 2–4 contacting cells (macrophages, lymphocytes, plasmacytes, mast cells, tumor-associated fibroblasts and neutrophils in various combinations) with signs of metabolic activity were marked. X-ray fluorescence spectroscopy preliminary results in rats with Pliss lymphosarcoma regression indicated dense arrangement of magnetite NPs and their aggregates in the peritumoral area and their practical absence in tumor.

Conclusion: The study results reflect the changes in the immune microenvironment of experimental tumors under effective action of magnetite NPs and indicate significant activation of local immune processes caused by these factors.

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