Chemotherapy and Spleen Peptides Preparation, SP-1, (Polyerga™) in the Treatment of Experimental Lung Metastases of Mammary Carcinoma in Mice

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Aim. To study the influence of chemotherapy with cyclophosphamide and/or spleen peptides’ preparation SP-1, Polyerga™, on the incidence of experimental lung metastases of mammary carcinoma in mice.

Method. Mammary carcinoma cells were injected i.v. into CBA/HZgr mice to obtain experimental lung metastases. One day later, a single injection of cyclophosphamide (50 mg/kg) was given i.p., and/or different concentrations of Polyerga™ were given perorally in drinking water until the end of the experiment. The mice were killed and the number of lung metastatic nodules determined.

Results. Peroral application of Polyerga™ was effective in reducing the number of experimental lung metastases. Even the smallest dose (0.05 mg/kg, 100-fold lower than the dose used in human practice) had a statistically significant effect (p=0.042). By increasing the dose of Polyerga™, its effectiveness was more pronounced. The dose of 5.0 mg/kg was as effective as a 100-fold higher dose, and was chosen for further experiments in combination with cyclophosphamide. Mice treated with the combined therapy were without tumor or the number of metastases was significantly reduced (p<0.001).

Conclusion. Polyerga™ preparation is active against tumor metastases, particularly if combined with the standard chemotherapy.

Key words: mammary neoplasms, experimental; metastasis; peptides; therapy

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