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Preclinical and clinical testing of a alpha-ketoglutarate/5-HMF/N-actyl-selenomethionine and N-acteyl-methionine for treating tumors

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Abstract

This lecture will address of the use of a newly developed therapeutic substance combination (KARAL®) namely alpha-ketoglutarate (AKG)/5-Hydroxymethylfurfurale (5-HMF)/N-Acetyl-Selenomethionine (NASeLM) and N-Acteyl-methionine (NALM). Supplementation of of AKG/5-HMF alone (Sanopal®, CYL-Phamraceutica) was used in a clinical study as pre-operative solution in patients with lung cancer. Results showed significant reduction of complications during surgery, massive better conditions before and after surgery (reduction of hospitalization +/- 11 days) compared to control group. Single substances, and combination of all substances in several concentrations showed on cancer cells (Jurkat, non-small cancer cells, thyroid cancer cells, prostate cancer cells) concentration dependent decrease of mitochondrial activity, cell growth and an increase of caspase-3 activity.

In two pre-clinical studies (cancer in lung, pleura and esophagus and prostate cancer) on the Medical University of Graz and on the Medical University of Vienna promising results ratify the outcomes of cell studies.

Biography

Professor Joachim Greilberger has studied medicinal chemistry, medicinal biochemistry and clinical chemistry on cancer cells, but also in other diseases like neurodegenerative diseases, atherosclerosis or diabetes. He is involved in the development of novel combined substances for treating tumor, like non-small cancer lung cells, esophagus, pleura, prostate in clinical trials and also in cell culture. He is also involved in the development of oxidative stress parameters, like damaged proteins (carbonylated proteins, nitrated proteins), during cancerogenesis.