

Zeno Effect (Frequent Inhibition of the Effector Cells Regulators) in Cancer Therapy

R. Glavatović¹ and V. Panković²

¹*Military-Medical Academy, 11000 Belgrade, Crnotravska 17., Serbia*

²*Department of Physics, Faculty of Sciences, 21000 Novi Sad, Trg Dositeja Obradovića*

(Received June 22, 2012; Revised August 21, 2012; Accepted August 29, 2012)

Recently Brutovsky and Horvath suggested a strategy of the pure evolutionary self-destroying of the cancer without any active medical treatment. In this work we suggest a completely opposite strategy for cancer inhibition and eventually elimination. It is based on the frequent (many times repeated) application of an especial active medical treatment. This treatment represents such inhibition of the regulator cells (Th_1 , Th_2 , ...) which causes hyper-activity of the effector cells (citotoxic limfocits, nature killer cells, ...) that eliminate cancer cells (dirty inspector Harry effect). Conceptually, our strategy is similar to Zeno effect theoretically predicted and experimentally verified in the quantum mechanics (but which can be realized in practically any domain of the physics). According to Zeno effect a non-stable system, evolving during time from initial non-decayed to the final decayed state, can never decay by frequent (many times repeated) perturbation by measurement (representing an active evolution breaking treatment).