

Evaluation of Garlic Extracts on Cancer Growth in Rats Fed Diets with Varying Levels of Protein.

Author(s): Julius Bayode Fakunle

Abstract

Several aqueous plant extracts of common vegetables were screened for in vitro inhibition of tumor guanylate cyclase activity (the only enzyme known which produces cyclic GMP, a key regulator of cancer cell growth). One hundred and twenty young male rats (100-133g) were assigned to two major groups. One group of sixty animals was injected with transplantable Morris hepatoma (#3924A) one week after they had been placed onto their dietary regimen. Each major group was divided into six minor groups of ten rats each and was fed with three dietary protein levels of either 5%, 15% and 25% (without and with 5% lyophilized garlic extract supplement). Non-tumor bearing animals fed 5% or 15% protein ate significantly ($p < 0.05$) more food than the tumor-bearing animals (10.8 vs 9.3g). At the end of four weeks, dietary protein showed a significantly positive correlation with liver weight, kidney weight, tumor weight, tumor area and tumor tissue protein ($p < 0.01$). Serum and liver protein were significantly decreased in the tumor bearing animals. Low dietary protein significantly decreased tumor growth ($p < 0.05$) from 60-70%. All diets containing 5% garlic yielded decreased tumor growth from 10-25% ($p < 0.05$). Results of this study indicate that a decrease in dietary protein and/or a 5% garlic extract dietary supplement caused decreased growth of Morris hepatoma 3924A. It appears that garlic extract supplemented in the diet of experimental animals may help in cancer prevention.

Keywords: Garlic Extracts, Cancer Growth In Rats Fed Diets, Levels Of Protein

Published: in 1984