

Paper No. (2)

Title: Prevention of rat breast cancer by genistin and selenium

Authors: Soha M Hamdy¹, **Abdel Karim M Abdel Latif**², Ehab A Drees¹ and Sahar M Soliman¹

Toxicology and Industrial Health 28 (8) 746–757 (2012)

ABSTRACT

Breast cancer is the second leading cause of cancer death among women and the third most common cancer. In this study, we investigated the chemoprevention efficacy of each of soy genistin, selenium or a combination of them against breast cancer. Seventy-five female rats were divided into five groups : control group (I); 7,12-dimethylbenz(a)anthracene (DMBA) group (II); DMBA treated with genistin group (III); DMBA treated with selenium group (IV); and DMBA treated with genistin combined with selenium group (V). The treatments were daily administered for 3 months. There were a significant decrease in body weight and serum total antioxidant, while a significant elevation in serum total sialic acid, carcinoembryonic antigen, prolactin, estradiol, nitric oxide, and malondialdehyde of DMBA injected rats compared with control group. Administration of genistin and selenium was associated with decreasing levels of tumorigenicity, endocrine derangement, and oxidative stress. Formation of breast carcinoma in DMBA-induced rats and abnormal changes were ameliorated in the rats treated with genistin/selenium or genistin alone. Supplementation of genistin alone or with selenium provided antioxidant defense with high-potential chemopreventive activity against DMBA-induced mammary tumors more than selenium alone.

Keywords: Breast cancer, genistin, selenium, DMBA, TSA, CEA, MDA, prolactin, estrogen

