The effect of aspartame administration on oncogene and suppressor gene expressions.

- **Gombos K.**
- **Varias T.**
- **Orsos Z.**
- **Polyak E.**
- **Peredi J.**
- **Varga Z.**
- **Nowrasteh G.**
- **Tettinger A.**
- **Mucsi G.**
- **Ember I.**

Faculty of Medicine, Institute of Public Health University of Pecs, Pecs, Hungary. katalin_gombos@yahoo.com

BACKGROUND: Aspartame (L-phenylalanine N-L-alpha-aspartyl-1-methyl ester) is an artificial sweetener with widespread applications. Previously published results have shown that among rats receiving aspartame a significant increase of lymphoreticular neoplasms, brain tumours and transitional cell tumours occurred. The aim of our short-term experiment was to investigate the biological effect of aspartame consumption by determining the expressions of key oncogenes and a tumour suppressor gene. MATERIALS AND METHODS: After one week per os administration of various doses of aspartame to CBA/CA female mice, p53, c-myc, Ha-ras gene expression alterations were determined in individual organs. RESULTS: The results showed an increase in gene expressions concerning all the investigated genes especially in organs with a high proliferation rate: lymphoreticular organs, bone-marrow and kidney. CONCLUSION: Aspartame has a biological effect even at the recommended daily maximum dose.

PMID: 17354619 [PubMed - indexed for MEDLINE]