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Promotion of Liver Lesion Development in the Syrian Hamster by Deitary fat Following Multi-Organ Initiation is Inhibited by Dhea-S Administration

Cheol-Beom Park[1], Sun-Hee Kim[1], Young-Hee Shim[1], Dae-Joong Kim[2], Jong-Sung Lee[1], Jong-IL Park[1], Jong-Koo Kang[2], Malcome-A Moore[3], Tsuda HIroyuki[3]

[1]Special Toxicology [1]Team, Biotoxtech and [2]College of Vet. Med,Chungbuk National University and [3]Experimental Pathology and chemotherapy division, National Cancer Center Research Institute in Japan

The influence of dietary supplementation with dehydroepiandrosterone-sulphate (DHEA-S) at 0.6% was investigated in male Syrian golden hamsters initiated by treatments with azoxymethane(AOM), and dihydroxy-di-n-propyl nitrosamine (DHPN), timed after transfer from a choline-deficient to a normal diet. These carcinogens respectively target the colon, and the respiratory tract, the liver and pancreas. A total of 75 animals were divided into 6 groups, 1-3 (20 animals each) receiving the initiation protocol of during the first 8 weeks, and 4-6 (5 animals each) given the vehicles alone. The hamsters in groups 2,3 and 5,6 then received a high fat diet (20% corn oil) while DHEA-S was given in addition for 20 weeks to groups 3 and 6. Groups 1 and 4 served as controls on the basal diet. Assessment of development of preneoplastic and neoplastic lesions, after sacrifice at week 28, revealed increase in hepatocellular liver nodules and the index of BrdU incorporation in the hepatocellular cells of the liver in the initiated animals given the high fat diet. This was significantly reduced by the DHEA-S supplementation. Non-significant tendencies for high fat enhancement and hormone protection were also observed for lung and colon tumors

Keyword : DHEA-S, AOM, DHPN, carcinogenesis, hormone