

EXAMINATION OF COLON CARCINOGENESIS AND COCARCINOGENESIS INDUCED BY 1,2-DIMETHYL-HYDRAZINE (DMH). J.Sugár, O.Csuka and Z.Szentirmay. Research Institute of Onco-pathology, Budapest, Hungary.

Colon carcinogenesis induced by DMH in Swiss and C57Bl mice has been investigated. The effect of phorbol ester TPA and Vincristin (VCR) on the outcome of DMH induced carcinogenesis has been studied. TPA treatment increased the number of hyperplastic foci in DMH treated animals, enhanced metastasis formation and increased the incidence of squamous cell metaplasia in the stomach. VCR treatment increased the occurrence of perianal lesions induced by DMH in Swiss mice. By computerized cytophotometric analysis heteroploid DNA population could be detected in hyperplasia induced by DMH or TPA. In carcinomas the percentage of hyperdiploid cell population is further increased and 3 subpopulations could be revealed. The DNA heteroploidy refers to the genetic instability of the cells.

---

TEM AND SEM STUDIES OF HUMAN BLADDER CARCINOMA CELLS INVADING EMBRYONIC CHICK HEART FRAGMENTS IN VITRO. B.Szende, J.Kieler, K.Lapis and B.Christensen. Institute of Pathology and Experimental Cancer Research, Semmelweis Medical University, Budapest, Hungary and The Fibiger Laboratory, Copenhagen, Denmark.

The Hu 961 cell line was established *in vitro* from a T-1 (TNM-classification) transitional cell carcinoma (TCC) of the bladder from a 65 year old man. Histologically the tumour was classified as a non-invasive, grade 2 tumour. The Hu 961 cell line is tumorigenic in nude mice, and in co-cultures with fragments of embryonic chick hearts, aggregates of the Hu 961 cells invade and destroy the heart tissue. In the present work these cells and co-cultures were studied by transmission (TEM) and scanning (SEM) electron microscopy. The epithelial character of the Hu 961 cells was verified in monolayer cultures as well as in co-cultures with heart fragments, and destruction of neighbouring muscle cells was demonstrated.

---

EFFECTS OF Na-2-MERCAPTOETHANESULPHONATE (Mesna) ON THE CARCINOGENICITY AND MUTAGENICITY OF N-NITROSO-n-BUTYL-N-(4-HYDROXYBUTYL)AMINE. A.M.Tacchi, D.Schmähl and B.L.Pool. Institute of Toxicology and Chemotherapy, German Cancer Research Centre, Heidelberg, F.R.G.

There is evidence that Mesna inhibits bladder carcinogenesis induced by cyclophosphamide (Habs *et al.*, Cancer 51, 606-609, 1983). We investigated whether Mesna acts specifically against cyclophosphamide or exhibits a general protection towards chemically-induced bladder cancer. The bladder carcinogen N-nitroso-n-butyl-N-(4-hydroxybutyl)amine (BBNOH) was administered to male Sprague-Dawley rats over a period of 9 months (5 g/kg by gavage) together with Mesna (63 g/kg in drinking water). Control rats were given carcinogen alone and both groups were observed for life. Although Mesna did not reduce the tumour incidence, it significantly increased the life-span of treated animals. Thus, at the dose levels used here, Mesna would appear to exert a partial detoxifying action against BBNOH.

Mesna did not reduce the mutagenicity of BBNOH when tested in the histidine auxotroph *Salmonella typhimurium* TA 35.