CHROMOSOMAL ABNORMALITIES IN MALIGNANT PLEURAL MESOTHELIOMA

M.Tiainen(1), L.Tammilehto(2), K.Mattson(2) and S.Knuutila(1)

(1)Department of Medical Geetics, University of Helsinki, Helsinki, Finland; and (2)Department of Pulmonary Medicine, University of Helsinki, Helsinki, Finland

Cytogenetic study was made of cells acquired from 32 patients (27 pretreatment) with malignant mesothelioma. The cells were obtained from fresh tumour fragments and/or from pleural effusions. Chromosome analysis was performed after various culture times by using normal G-banding technique. Metaphases were obtained from 28 mesotheliomas. In 17 specimens clonal abnormality was seen. Karyotype findings were complex and heterogenous. Correlations between cytogenetic results and clinical parameters are under investigation.

EFFECT OF AN ANTI-GAG AGENT KL-103 ON TUMOUR CELL MEMBRANES AND MICROINVASIVENESS

J.Timar, L.Kopper, G.Pogany, A.Jeney and K.Lapis

Ist Institute of Pathology and Experimental Cancer Research, The Semmelweis Medical University, Budapest, Hungary

KL-103, an alkylpyrimidine derivative, was shown to prevent metastatisation of highly metastatic Lewis lung tumour in vivo. Recent studies demonstrated that these cells are characterissd by high heparan sulphate biosynthesis, high sialy lation of glycoproteins and high expression of MHC antigens. Cytochemical studies demonstrated increased net negative surface charges on KL-103 treated tumour cells. There was no change in ConA binding, but an almost total disappearance of RCA-binding and MHC expression could be detected on the surface of in vitro treated cells. KL-103 was able to prevent the incorporation of radioactive precursors into GAG components and decrease the heparan sulphate/chondroitin sulphate ratio. In parallel, an immunoreactive GAG disappeared from the cell surface. As a result of these complex membrane alterations, the treated tumour cells lost their microinvasive capacity against fibroblasts in vitro. Upon KL-103 treatment there is no significant change in cell proliferation, so the anti-invasive effect of the drug is the result of the altered tumour cell surface glycoconjugate compositions (especially glycosaminoglycan).

ENDOMETIRIAL AND OVARIAN CANCER FOLLOW-UP WITH CA125 EIA MONOCLONAL

G.C.Torre, G.Rosso(1), A.Calabrese(1), M.Foglia(1), M.T.Caro(2), L.Pirovano(3), G.P.Vigliarcio(4), E.Radici(5) and G.Mazzoleni(5)

Hospitals Pietra L. Department, Obstetric and Gynaecological Pathology, (2)Clinical Laboratory I and (3)II, (1)Saluzzo, (4)Albenga, (5)Bergamo, Italy

CA125 was measured with a solid phase enzyme immunoassay based on the sandwich method (Abbott EIA CA125 Monoclonal) in a total of 39 gynaecological malignancies (17 ovarian, 13 endometrial, 9 cervical). The estimated cut-off (mean+2DS) was 27 U/ml (180 controls). Cervical carcinoma revealed elevated levels, in advanced and widespread lesions particularly, and a subsequent decrease to normal range in 2 months from surgical treatment, and an elevation subsequently in presence of relapse. Endometrial cancer showed elevated levels in stages III and IV. The data described were similar to those observed in the same patients with RIA, confirming the importance of serial determination of CA125 in the follow up of ovarian and endometrial cancer. We should stress that it is important to repeat the determinations, always, if it is possible, in the same laboratory, with the same method, for a correct clinical interpretation of the levels to be obtained.

HYDRAZINES AND DIAZONIUM IONS OF MUSHROOM ORIGIN AND CANCER

B.Toth, P.Gannett and T.Lawson

Eppley Institute for Research in Cancer, University of Nebraska Medical Center, Omaha, Nebraska 68105, U.S.A.

We have undertaken a series of investigations with five nitrogen-nitrogen bond containing chemicals found in the cultivated mushroom of commerce Agaricus bisporus. In the carcino-genesis area, it was found that the N' - acetyl derivative of 4-hydroxymethylphenylhydrazine (HMPH), the salts of 4-(hydroxymethyl)benzenediazonium ion (HMBD), the hydrochloride salt of p-hydrazinobenzoic acid (HBA), β-N-[δ-L-(+)-glutamyl]-4-carboxyphenylhydrazine (GCPH) and the uncooked mushroom itself induced a variety of cancers in mice. Of the five compounds, the presence of HBA and GCPH in the mushroom was established by us. In biochemistry, various carcinogenic arylhydrazines of mushroom origin were shown to be readily metabolized in vitro by cytochrome P-450 and prostaglandin (H) synthase enzyme systems while the