LAP CELL MEMBRANE ALTERATIONS IN HIGHLY METASTATIC TUMOUR CELLS

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The in vivo selected, highly metastatic variant of Lewis lung tumour (HH) was used to study cell membrane alterations resulting in increased metastatic capacity. Cell suspensions from i.m. inoculated tumour and primary culture of HH and LL parent cells served as model system. There was an increased heparin sulphate content in HH cells in vivo and in vitro. There was a complex change in surface lectin-binding sites on HH cells and the terminal galactosyl residues were decreased, while the N acetyl-glucosamine residues were increased. Fibronectin was present in increased amounts on the surface of HH cells, which diminished the adhesive capacity of the HH cells to fibronectin-coated surfaces. These quantitative differences in surface glycoproteins are reflected in altered in vivo behaviour of HH cells during liver metastasis formation, altered tumour-endothelial, tumour-macrophage interactions, as well as in a shift from the lobular metastatic foci to portal foci.

LEH CANCER-PRONE GENETIC DISORDERS WITH DEFECTS IN DNA REPAIR

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A number of cancer-prone genetic disorders are associated with cellular defects in the ability to repair damaged DNA. In xeroderma pigmentosum there is a clear relationship between defective DNA repair, enhanced UV mutagenesis and an increased frequency of skin cancer. In Cockayne syndrome, ataxia-telangiectasia and in an immunodeficient individual (46BR), there is strong evidence for different defects in DNA repair, which give rise to cellular hypersensitivity to the lethal effects of different mutagens. In these disorders, however, the relationships of the molecular and cellular defects to the clinical symptoms of the diseases are very complex. Attempts are now being made to clone the genes which are defective in these disorders, in order to gain a better understanding of their molecular bases.

LIZ ANALYSIS OF HUMAN TERATOCARCINOMA-DERIVED VIRUS PARTICLES

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In vitro cultivated human teratocarcinoma cells can be induced to produce retrovirus-like particles. The HTDV (human teratocarcinoma-derived virus) particles are morphologically related to other strains of C-type retroviruses (1). These particles can be banded at a density of 1.16g/ml in a sucrose gradient, and possess endogenous reverse transcriptase activity. They are distinguishable from all known animal retroviruses by immunological criteria. The following have been evaluated:

(a) characteristics that establish HTDV as a novel group of human retrovirus-like particles, and (b) an anti-HTDV-immune response in sera of teratocarcinoma patients and normal human donors.

(1) Boller, K., Frank, H., Löwer, J., Löwer, R. and Kurth, R. J.Gen.Virol., 64, 2549-2559, 1983.
