GRÆ REEXPRESSION OF BLOOD GROUP ANTIGEN A IN ADENOCARCINOMAS OF THE HUMAN COLON

N.Græm, E.Dabelsteen[1] and H.Clausen[2]
Kommunehospitalet, Copenhagen, Denmark; [1]Royal Dental College; [2]University of Washington, Seattle, U.S.A.

In the distal part of the human colon, blood group antigens are only expressed in foetal tissue and not in normal tissue from post-natal individuals. Previous studies with polyclonal antibodies have shown that blood group antigen A may be reexpressed in adenocarcinomas of the distal colon. The purpose of this study was to characterize the structure and distribution of this oncofoetal antigen. Adenocarcinomas from the distal part of the colon of 64 patients were examined by an indirect immunofluorescence technique. Monoclonal antibodies to varieties of blood group antigen A were used as primary antibody. In all patients belonging to blood group A, expression of blood group antigen A was seen in the tumours. In all cells the antigen was monofucosylated and was carried by the so-called type 1 carbohydrate chain. In addition a minor proportion of the tumour cells expressed difucosylated blood group antigen A on a type 1 carbohydrate chain. This difucosylated antigen could also be demonstrated in non-dysplastic mucosa neighbouring the tumours. In only a few patients belonging to blood group O the tumours expressed A antigens. Tumours from B patients were negative. The findings may become of practical importance for i) early diagnosis of adenocarcinomas of the colon and ii) more precise evaluation of surgical specimens.

GRI LECTINS IN THE STUDY OF DYSPLASTIC AND NEOPLASTIC LESIONS OF THE STOMACH AND COLON

P.G.Grigolato, M.Falchetti, L.Morassi, A.Benetti, A.Berenzi and G.Sacchi
Institute of Morbid Anatomy of University Medical School, Spedali Civili, Brescia, Italy.

Several lectins (DBA, PNA, Con A, PHA, WGA and UEA) have been utilized in the study of gastric and colonic walls in dysplastic and neoplastic conditions. In the gastric wall there is a superficial movement and an increased positivity of the PNA in dysplastic areas, while the neoplastic tissue is intensely positive with Con A. Colonic mucosa, like gastric mucosa, shows in normal conditions a superficial positivity for the DBA, that nevertheless increases in the tubular and tubular-villous adenomas. Also in the dysplastic areas in the colon, DBA behaviour is like PNA in the gastric mucosa. Con A binds intensely to neoplastic tissue in both the stomach and colon. PNA stains vascular endothelium, but does not show significant and constant reactions with the glandular cells. WGA and UEA (the latter stains vascular endothelium) show a selective positivity for the normal and neoplastic glandular epithelium, with a higher intensity in the area of the tumour.

GRI BINDING OF 1,1-DICHLOROETHANE (1,1-DCE) TO MACROMOLECULES OF RAT AND MOUSE ORGANS

S.Grilli, A.Colacci, M.Mazzullo, G.Prodi and G.Arfellini
Centro di Cancerogenesi Chimica, Istituto di Cancerologia, Bologna University, Italy.

1,1-DCE is widely produced and used as a solvent and pesticide, just as is its oncogenic isomer 1,2-DCE. Its LD_{50} in rodents is 10-fold higher than that of 1,2-DCE: however, there is limited evidence of oncogenicity in animals. Recently, we studied the in vivo and in vitro binding of 1,2-DCE to macromolecules of murine organs mediated by microsomal and cytoslic pathways (J.Cancer Res. Clin. Oncol. 108, 204, 1984). Covalent binding index (CBI) to liver DNA in vivo was in the tens, i.e. typical of weak carcinogens (Mutat. Res. 65, 289, 1979), and the pattern of interaction with DNA correlated well with other data of genotoxicity. We then administered i.p. under the same conditions, ^{14}C-1,1-DCE (10.45 mCi/mmol; 127 μCi/Kg) to male adult Wistar rats and Balb/c mice and measured the labelling of DNA, RNA and proteins in liver, kidney, lung and stomach 22 hr later. CBI values of liver DNA were 79 and 65 for rat and mouse respectively. Labelling of stomach and lung DNA were of the same order; kidney DNA labelling was the lowest. The values are comparable to the pattern of interaction of 1,2-DCE (a weak-moderate oncogen) and suggest the need for more detailed long-term assays. The ability of microsomes and cytosol from various organs in mediating in vitro interactions has been investigated.

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