

HAB

## SIALOMUCINS AND LOCAL RECURRENCE IN COLORECTAL TUMOURS

N.Habib, P.Dawson and C.Wood

Department of Surgery, Royal Postgraduate Medical School, London, U.K.

In a prospective trial, the resection margins of 130 patients who underwent apparently curative resection for colorectal cancers were examined. Sialomucin was markedly increased in 17.0% of proximal resection margins and 17.3% in distal resection margins. Clinical follow-up has demonstrated four patients who have developed local recurrence of their disease. Three of these cases had increased sialomucin staining in the resection margins at the time of initial surgery. High iron diamine alcian blue staining of resection margin may identify those patients at risk of developing local recurrence of colorectal cancer or meta-chronous tumour following apparently curative resection.

---

HAB

## DESATURATION OF THE ERYTHROCYTE CELL MEMBRANE IN PATIENTS WITH MALIGNANT DISEASES

N.A.Habib, C.B.Wood, K.Apostolov<sup>1</sup>, D.Kersten, W.Barker<sup>1</sup>, A.Thompson and C.SmadjaDepartments of Surgery and Virology<sup>1</sup>, Royal Postgraduate Medical School, London, U.K.

Recent work (1) has suggested that the change in fatty acid saturation in tumour cell membranes may well represent a characteristic malignant change common to a variety of cancers. This study has analysed the fatty acid content of erythrocytes in patients with cancer to determine whether or not the local changes seen in tumour cells are present also in the systemic circulation.

Gas lipid chromatography study of the eighteen carbon chain length fatty acids of the human erythrocytes was performed on 70 patients. It was found that the stearic to oleic acid ratio of the erythrocytes was significantly lower in patients with malignant conditions ( $n = 25$ ,  $SI = 0.62 \pm 0.10$ ), compared with pathological non-malignant diseases ( $n = 10$ ,  $SI = 1.19 \pm 0.2$ ) and the normal control group ( $n = 35$ ,  $SI = 1.57 \pm 0.5$ ).

Our early results suggest that the increased unsaturation (oleic acid) in the circulating RBCs could be used as a chemical marker in various solid neoplasms. (1) Apostolov, K. and Barker, W. The effects of interferon on the fatty acids in uninfected cells. *FEBS Lett.* **126**, 261-264 (1981).

---

HAC

## SEQUENTIAL CYTOCHEMICAL CHANGES DURING HEPATOCARCINOGENESIS IN MICE AFTER SINGLE INJECTION OF DIETHYLNITROSAMINE.

H.J.Hacker, St. Vesselinovitch<sup>1</sup> and P. BannaschGerman Cancer Research Center, Heidelberg, F.R.G.; and <sup>1</sup>University of Chicago, Chicago, U.S.A.

Preneoplastic and neoplastic lesions were induced in 15-day-old B6C3F<sub>1</sub> mice by single i.p. injection of 2.5 or 5.0 µg/g body weight diethylnitrosamine. The development of putative preneoplastic hepatic foci and neoplastic lesions were analysed by cytochemical methods between 5 and 52 weeks after DEN treatment. The preneoplastic foci showed the following histochemical pattern: patchy basophilia and glycogen storage; high activities of glycogen synthetase (SYN) and phosphor-ylase (PHO); low activities of glucose-6-phosphatase, adenosine-3-phosphatase (ATPASE) and acid phosphatase; elevated activities of glyceraldehyde-3-phosphate dehydrogenase and particularly glucose-6-phosphate dehydrogenase. γ-glutamyl transpeptidase was always lacking. In neoplastic lesions the histochemical pattern was in many respects similar to that of preneoplastic foci but adenomas and carcinomas usually showed a lower glycogen content accompanied by reduced activities of SYN and PHO and the appearance of a cell membrane-bound ATPASE. In carcinomas G6PDH activity was lower than in adenomas, whereas GAPDH activity revealed a further increase. The results support the concept that among other changes a basic shift in carbohydrate metabolism shows a particularly close linkage to neoplastic transformation of hepatocytes.

---