

±PHA or ConA stimulation showed only slight inhibition of viability or growth and of macromolecule synthesis when cultured with 10 to 40 nM NA. Such NA levels inactivated S-adenosylhomocysteine hydrolase and drastically increased S-adenosylhomocysteine in the lymphoma cells resulting in transmethylation block. NA is thus a promising antilymphoma agent and its action mechanism is related to inhibition of cellular transmethylation reactions, a new route for attacking cancer cells.

PROGNOSTIC IMPACT OF DNA-PLOIDY AND S-PHASE FRACTION

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To evaluate the prognostic significance of nuclear DNA content and S-phase fraction (SPF) in human tumours, 600 archival paraffin-embedded specimens from breast, ovarian and lung cancer were analysed with DNA flow cytometry.

DNA-aneuploidy was observed in 60% of breast, 58% of ovarian and 63% of lung cancer specimens and the mean SPF was 11.1, 14.5 and 17.6%, respectively. DNA-aneuploidy and high SPF were most common in advanced stage or poorly differentiated tumours as well as in steroid receptor negative breast tumours. In breast cancer, high SPF but not DNA-aneuploidy was related to poor prognosis. In ovarian cancer both parameters were independent indicators of poor prognosis according to a Cox regression model. DNA-aneuploidy in the tetraploid mode was related to better prognosis than non-tetraploid or multiclonal DNA abnormality. We conclude that DNA flow cytometry can be used to measure new prognostic parameters on a cellular level in human cancer.

THE DIAGNOSTIC APPLICATION OF URINARY POLYAMINE MEASUREMENT IN WOMEN WITH GYNAECOLOGICAL CANCERS

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In 56 women (in the age range of 28 to 55) with gynaecological cancers, urinary polyamines were measured using an enzymatic assay method. After performing surgery and

chemotherapy, a decrease in the level of urinary polyamines was found in almost all cases. This was taken to be indicative that the measurement of urinary polyamines can be used to monitor the effectiveness of therapy.

A COMPARATIVE STUDY OF VARIOUS TUMOUR MARKERS IN CANCERS OF GASTROINTESTINAL SYSTEM

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A comparative study of eight tumour markers, including five enzymes (5'-nucleotidase, sialyltransferase, γ-glutamyltransferase, alkaline phosphatase and a Zn++ dependent nucleoside diphosphatase), two antigens (carcinoembryonic antigen and immunosuppressive acidic proteins) and sialic acid, was performed in nearly 100 patients with primary and metastatic cancer of the gastrointestinal system.

Liver scanning for liver involvement was performed in all patients and the disease in all cases was histologically confirmed.

The results showed that none of the markers used is specific for primary, stomach and colorectal carcinoma. On the other hand, 5'-nucleotidase, nucleoside diphosphatase and γ-GT, were proved very good markers for the early detection of primary or metastatic liver carcinoma. In fact, the feasibility of detecting liver involvement using these markers, is very close to that achieved by liver scanning.

MAMMARY EPITHELIAL CELL POPULATIONS ANALYSED BY MEANS OF MONOCLONAL ANTIBODIES (MAbs)

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MAbs, some of which were produced in our laboratories, have been evaluated for their potential use in (1) analysing normal mammary epithelial cells cultured *in vitro*, and (2) detecting metastases of mammary carcinomas in regional lymph nodes. A characteristic pattern of marker expression (cytokeratins, blood group