Col 11

BGP - A DIFFERENTIATION ANTIGEN OCCURRING PARTICULARLY IN COLORECTAL, LIVER AND LUNG CARCINOMAS
B. Wiebecke, Ch. Reischle and R. Lamerz

Biliary glycoprotein (BGP I) has been demonstrated in bile capillaries only. (T.Svenberg, Clin. exp. Immunol. 36, 436, 1979). The present study gives an overview about the occurrence of BGP in fetal and adult organs and tumors using the peroxidase method and a highly purified polyclonal rabbit antibody additionally absorbed against liver. Results: Adult liver was BGP-negative, but bile capillaries again became positive in liver cirrhosis, primary biliary cirrhosis, extrahepatic cholestasis, and in the surrounding of several tumor metastases to the liver, even if the metastases themselves were BGP-negative. Contrary to the adult fetal liver was always strongly BGP-positive in the bile capillaries, less pronounced in fetal and adult surface epithelium of the intestine. Regenerating gut epithelium was found strongly positive in ulcerative colitis. Colorectal adenomas and carcinomas (33) were BGP-positive also differentiated parts of hepatocellular and cholangiocellular carcinomas. Weakly positive were carcinomas of the gallbladder, a medullary thyroid carcinoma and endometrial carcinomas. Normal secretory endometrium in pregnancy was also BGP-positive. Normal bronchial epithelium was negative also small cell carcinoma, however, differentiated cells of adeno- and squamous cell carcinomas of the lung were positive. Conclusion: BGP is not liver-specific. Its pattern in fetal and adult organs and its quantitative reappearance in carcinomas shows outlines of an oncofetal antigen.

Pathologisches Institut der Universität München
Thalkirchner Str. 36, D-8000 München 2

Col 12

IMMUNOSCINTIGRAPHY (IS) OF MALIGNANT TUMORS USING PLANAR IMAGING AND EMISSION COMPUTER TOMOGRAPHY (ECT)
J. Happ, R.P. Baum, I. Loose-Wagenbach, P.D. Maul, Th. Schmitt-Bylandt and G. Hör

In patients presenting significant serum levels of tumor markers, IS can be used. The present report gives the results of an intraindividual comparison of planar imaging and ECT. Patients (n = 9) with various malignant tumors (colorectal carcinoma (CRCA) (n = 5), ovarian carcinoma (OVCA) (n = 3) with suspected local recurrence or CT diagnosed liver metastases and a pulmonary adenocarcinoma (PACA) presenting positive tumor markers in serum (CEA, CA 19-0 and / or CA 125) were submitted to IS using I-131 labeled monoclonal antibodies (MAB) or "cocktails" of MAB against CEA, CA 19-9 and CA 125 (Isotopendiagnostik CIS, Spremlingen, FRG). For "anatomical landmarking", double-nuclide double-compound scintigraphy was performed producing I-131 MAB scintigrams in combination with Tc-99m tracer imaging of bone, RES (i.e. liver, spleen and bone marrow) and of the kidneys and the bladder. Multiple view planar scintigraphy of the trunk was performed up to about 1 week p.i.; ECT was performed 2 days p.i.

The lung tumor was imaged by ECT as well by planar scintigraphy. Local recurrence of CRCA in 1 patient was imaged by ECT, only. Liver metastases of CRCA in 3 patients were imaged by IS where the best visualization was obtained using the planar technique. With RES imaging, however, cold lesions of the liver were detected better when using ECT. In both patients with OVCA, primary tumor or local recurrence were clearly imaged by ECT and less clearly by the planar technique. Our results demonstrate the advantages of both imaging techniques. The practical consequences will be discussed.

Allg. Nuklearmedizin, ZRad, Klinikum der Universität Frankfurt/M., Theodor Stern-Kai 7, 6000 Frankfurt/M.

Col 13

THE VALUE OF TUMORMARKERS IN EARLY DIAGNOSIS OF RECURRENCE IN COLON CARCINOMAS

K. Bauknecht, J. Boese-Landgraf, U. Baer, E. Tröster

During our follow-up program a prospective study extending over a period of three years was carried out to evaluate the accuracy of CEA and CA 19-9 in the diagnosis of recurrence in colon carcinomas.

Data of 163 patients were evaluated on condition that:

- at least three simultaneous identifications of tumor-markers were performed.
- patients took part regularly in defined follow-up examinations (every three months clinical examination and tumormarker typing: in addition, within the first 2 1/2 years every six months apparative examinations such as sonography of the liver, CT, chest X-ray, contrast enema X-ray or endoscopy, later in a 1-year rhythm.
- primary treatment should have been radical from the surgical and histological point of view.

The accuracy of CEA concerning the recognition of liver metastases was much higher with 85% than that of CA 19-9 with 57%. The accuracy in recognizing local recurrence was constant at 50% in each tumormarker. As different patients were registered the identification rate increased to 75% due to simultaneous identification.

The recognition rate of metastatic processes in the lung or the onset of peritoneal carcinomatosis ranged around 10% in both tumormarkers. The false-positive rate was 3-4% for each tumormarker. As tumormarkers usually rise three to six months before a relapse can be diagnosed through apparative examinations, they are an important auxiliary method in the early recognition of a recurrence, but, as sensitivity varies, they are not a replacement for clinical and apparative examination techniques in the early diagnosis of recurrent carcinomas.

Chir. Klinik, Klinikum Steglitz, FU Berlin,
Hindenburgdamm 30, 1000 Berlin 45

Col 14

BIASES IN THE EVALUATION OF FECAL OCCULT BLOOD TESTING AS A SCREENING METHOD FOR COLORECTAL CANCER

J. Windeler and J. Köbberling

For the evaluation of occult blood testing for colorectal cancer screening we studied the international literature. We took data for the parameters sensitivity (SE), specificity (SP), the negative (NPV) and positive predictive value (PPV) and the cancer prevalence (CP) from the original papers. The SE was found to be 70% in symptomatic patients. The SP for these patients is 90%. No reliable data about these parameters for asymptomatic patients can be found. We would estimate the SE for these patients at 50% with a SP of 97%. The PPV ranged between 5% in asymptomatic patients (CP 0.3%) and 23% in symptomatic patients (CP 4-5%). The NPV was found to be 99.85% at a CP of 0.3%. In secondary publications the SE is reported to be 80-90%. Instead of the SP a "false-positive rate" is reported to be about 1%. This refers to all findings in the gastrointestinal tract after a positive test and is not suitable for cancer diagnosis. The PPV is reported to be 15-30% without any discussion of its dependency on CP. There are no reports about the NPV. The test is widely recommended for mass screening. In a model calculation with the realistic data and some other probable assumptions hardly any mortality reduction can be predicted for the tested patient group. An unfavourable constellation may even lead to a negative influence on the mortality rate. A questionnaire was offered to 52 physicians to evaluate their general appreciation of the test. In addition it was asked for an estimation of the probability of cancer before test and with a positive or a negative testresult, each for three situations with different CP. The improvement of cancer probability, showing the physicians' experience with the test is very low (predictive factor 0.61). This is very much in contrast to their very positive opinion about the test. There seems to be no explanation for this discrepancy other than literature bias.

Medizinische Universitätsklinik, Robert-Koch-Str. 40,
D-3400 Göttingen (FRG)