11.109
NORMAL VALUES OF SERUM TUMOR MARKER LEVELS IN RELATION TO AGE
A. Verstraeten, P. Kanematsu, G. Ron, G. van Kamp Department of Obstetrics and Gynecology and Department of Clinical Chemistry, Free University Hospital, Amsterdam.

Serum tumor marker levels in human lung cancer (CA 19.9, CA 72.4, CA 15.3, MCA, CA 7.2 & 7.4) were measured in a collective of 780 healthy women, gynaecologically fully controlled, by isoelectric focusing and ultracentrifugation. From 77 to 84 years of age. For each tumormarker, mean, median and S.D. in relation to age were calculated.

Age related serum levels of seven tumor markers in healthy controls:

<table>
<thead>
<tr>
<th>Marker</th>
<th>Mean (S.D.)</th>
<th>Mean (S.D.)</th>
<th>Mean (S.D.)</th>
<th>Mean (S.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 125</td>
<td>7.4 (6.1)</td>
<td>6.4 (5.1)</td>
<td>5.3 (4.1)</td>
<td>4.2 (3.1)</td>
</tr>
<tr>
<td>CA 266</td>
<td>9.4 (8.1)</td>
<td>8.4 (7.1)</td>
<td>7.3 (6.1)</td>
<td>6.2 (5.1)</td>
</tr>
<tr>
<td>CA 267</td>
<td>3.4 (2.1)</td>
<td>2.4 (1.1)</td>
<td>1.3 (0.1)</td>
<td>0.2 (0.1)</td>
</tr>
<tr>
<td>CA 268</td>
<td>1.3 (0.1)</td>
<td>1.2 (0.1)</td>
<td>1.1 (0.1)</td>
<td>1.0 (0.1)</td>
</tr>
<tr>
<td>CA 282</td>
<td>0.3 (0.1)</td>
<td>0.2 (0.1)</td>
<td>0.1 (0.1)</td>
<td>0.0 (0.1)</td>
</tr>
</tbody>
</table>

11.110
THE HUMORAL IMMUNITY OF STOMACH CANCER PATIENTS
H.P. Vollmer, B. Buchta, M. Pfaff and H.K. Müller-Hermelink, Inst. für Pathologie, Universität Würzburg, Josef-Schneider-Str. 2, FRG.

To investigate the humoral immune response of patients with stomach carcinomas lymphocytes from spleens and lymphnodes were fused with the hybridoma cell lines. Immunofluorescence and different cytokines were measured. The results showed that in one patient, the immune response of the patient can be improved by the fusion of lymphocytes and spleen cells.

11.111
LIPOSOME-MEDIATED TRANSFER OF HUMAN TNF DNA
D. Weller, R. Reeska, Department of Cell Biology, Central Institute of Cancer Research, FRG.

The use of liposomes for the gene transfer into eukaryotic cells is an alternative method to other techniques, e.g. calciumphosphate precipitation. For the transfection of the tumor necrosis factor (TNF) DNA reverse phase evaporation vesicles were employed. The human TNF DNA was cloned into two variants into the MCA95 and confirmed by Southern and Western blot analysis. The liposome-mediated transfer of TNF to NIH 3T3 cells and human colon carcinoma cell lines was demonstrated by ELISA and showed crossreactivity with normal structures or embryonal tissues. No tumor-specific reactivity could be observed. Interestingly, one of the isolated antibodies derived from a CD 5 positive lymphocyte, which has been shown to play a major role in the early polyreactive T-cell independent defence against viral and bacterial infections. This could indicate that a CD 5 positive lymphocyte is also involved in an early immune reaction against cancer cells.

11.112
THE RADIOIMMUNOCOLLOCATION OF MCA LC-1 AND ITS FRAGMENT IN NUDE MICE BEARING LUNG ADENOCARCINOMA
Ge Xi-niu, Wang Shen-nian, Lin Si-jun, Cao Rong-zeng, Li Hing, Chen Zhi, Yao Zhong-yi, Chen Lin-ji, Zhang Su-yin and Ma Ji-xian.

(Peking University Institute of Cell Biology, Atomic nucleus, Material Medical, CAS; and 6th People's Hospital)

Purified MCA LC-1 (IgM type) was cleaved into 118 K fragment by CCTT treatment. The 118 K fragment of LC-1 was retained its immnoreactivity when incubated with target cells by ELISA. Both purified MCA LC-1 and its fragment were labelled with '111 In or '125 I. nude mice bearing human lung adenocarcinoma LAX-83 were used. The results showed that strong accumulation of '111 In-labelled LC-1 IgM within the lung tumor area, and the control human stomach cancer SGC-7901 area showed no accumulation. The biological distribution in nude mice showed similar result. The one on lung cancer cells is at least 7 times higher than the other cancer cells, when LC-1 IgM and its fragment was labelled with '111 In, and injected into nude mice bearing lung adenocarcinoma, significant tumor localization shown by gamma photon-scanning.

11.113
ANTITUMOR EFFECT OF MCA LC-1 AND TRICHOSANTHIN CONJUGATION

(Shanghai Institute of Cell Biology, CAS; Shanghai Institute of Medical Science, CAS)

MCA anti human lung cancer LC-1 IgM was purified by hypoosmotic and chromatography. The conjugate of LC-1 and trichosanthin was prepared by SEPP, and confirmed by SDS-PAGE and HPLC. Their Molar ratio was 1:1. The Ab activity retained in conjugated was demonstrated by ELISA. The cytotoxicity in vitro of the conjugate to target cells was about 70%. The label conjugate showed clear image in nude mouse bearing lung cancer but not in stomach cancer. The result of in vivo immunotherapy in nude mice bearing lung cancer indicated that the inhibition percentage was 50%1 compared to all the control groups (p<0.05).

11.114
OMETOCLOPRAMIDE DOES NOT ENHANCE THE EFFECT OF IONIZING RADIATION ON NORMAL TISSUE

Dept. of O.R.L., Oncology, Radiation Physics and Molecular Ecogenetics, University Hospital of Lund, Lund, Sweden.

We have previously shown (1) that metoclopramide (MCA), a benzamide derivative, potentiates the effect of ionizing radiation (RT) on xenograft squamous cell carcinoma of the H.N. The therapeutic gain of this is dependent on whether the normal tissue damage also increases when MCA and RT are combined.

Materials & Methods: Acute skin reactions were studied in female 129-type mice. Oxygen breathing mice were given MCA i.p. 1 hour before irradiation of the hind leg. There were two study groups, one given one fraction and one group given two fractions with 24 hr interval. Skin reactions were scored over a 3 day period. LSD 90% were studied in BALB/c nude mice. They were given whole body irradiation one hour after MCA i.p.

Results: MCA did not affect neither the RT induced acute skin reactions nor the LSD 90%.

Conclusions: The absence of potentiation of radiation damage to normal tissue in this animal study increases the possibility of clinical benefit from MCA as a potentiator of RT and encourages further clinical evaluation.