Symposium no. 11: New Approaches to Cancer Diagnosis and Management

11.079

Research about the Blood Pollution by Elaborating the Analytical Study of the Leukaemias

- Pirtoli Mario -

The blood pollution is studied by developing the blood informations, by using a graphic-analytical methodology .The meaning of "blood pollution" is described.The blood strength failure, cause of the blood pollution, has been studied and the study of the Leukaemia has been analysed by elaborating the blood acquisition data. The analytical relations between the blood power loss and the pathology of the person have been investigated. The human organism irradiated has been studied also (external radiation energy) , by carefully distinguishing the blood pollution and the blood contamination. In the General Hospital "Umberto 1°" of Ancona the author performed his experiments by analysing the irradiated blood of people affected by Leukaemias and malignant tumors , by using the "blood language".Besides the blood of healthy people , of pregnant women and of different aged little boys has been irradiated. The experiments put in evidence the danger for the human organism arising from the blood polluted. The blood pollution usually is caused by external sources because only in rare cases the human organism can pollute his own blood. It is so meaningful to study the Leukaemias due to nuclear causes (Chernobyl plant) and the malignant tumors due to nuclear explosions. The author to investigate more in detail the blood pollution considered also the blood of drug-depending people and he thinks it is interesting to study the blood of the people carrier of H.I.V..The author designed the set-up for the acquisition and the reduction of the blood information data and for the recording of the pathology code.

11.080

IMAGE CYTOMETRY (IC) IN SOLID TUMORS

E.POECKES, F.RIES, M.DICATO, R.DONDELINGER
RECHERCHE CANCER-SANG, CENTRE HOSPITALIER DE LUXEMBOURG

In 41 patients (pts) we performed direct (7o%) or CT-Scan guided (3o%) fine-needle aspiration of suspect lesions. 47 specimens were submitted to classical cytology and independently (double blinded) to IC(CAS-2oo). In IC the DNA histogram was classified from I to IV according to increasing aneuploidy and S-phase. The tumor of origin was : breast 11,lung 6,colon 3,others 18 benign nodules 3 cases. In 63% of the specimens positive (+) cytology correlated well with major DNA histogram abnormalities (class III or IV);(+)cytology was found with class I or II DNA histogram in 15%. Negative (-) cytology with III and IV histograms was found in 1o% and (-)cytology with class I and II in 1o%. Out of 4 patients with class III or IV and (-) cytology, a second sampling showed (+) cytology in 3/3 pts.
IC of smears from aspirations obtained by direct or CT-guided technique provide valuable, additional informations, compared to classical cytology and might prove useful for selecting patients with highly abnormal histograms for more agressive therapy.

11.081

Ca 27-29: A NEW MARKER FOR BREAST CANCER: PRELIMINARY STUDY.

Reale M.G., Di Seri M., Sciò M., Manna A., Marchei G.G., Simeoni F. and Marchei P.

Dept. of Experimental Medicine University of Rome "La Sapienza"

The aim of the present study was to investigate which of the currently used markers could be more predictive for recurrence of disease in patients previously treated for breast cancer. We made retrospective study that lasted for one and half year, comparing serum levels of three tumor markers, i.c. Ca 27.29, Ca 15.3 and MCA in 151 patients. Progression disease was shown in 30 of the 151 patients, whereas 25 of them shown had altered levels of serum markers without evidence of recurrance disease.Ca27.29 levels were enhanced in 26 over 30 patients with progressive disease, while Ca 13.3 and MCA values were positive in 19 and 22 patients, respectively. Serum levels were earlier enhanced in 25 assay for Ca 27.29, in 17 for Ca 15.3 and in 22 for MCA respectively. Furthermore in seven patients high levels of Ca 27.29 were registered six months before any increase in Ca 15.3 levels, whereas no difference was found in relation to MCA marker. High, values Ca 27.29, Ca 15.3 and MCA were observed in: 25, 17 and 16 patients under rilevance control respectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker for early recurrence disease compared to Ca 15.3, whereas is only more sensitive compared to MCA.

11.082

Neurone-Specific Enolase (NSE) and lung adenocarcinoma (ADK) staging: observation on 74 patients.

A.M. Romano, S. Tomaselli, L. Ratta, C. Catanese, P. Vitulo, P. Cremaschi, G. Parigi* **U. Prati

Div. of Pneumology, I.R.C.C.S. S. Matteo, Pavia
*Inst. of Surg. Pediat., University of Pavia
**Inst. of II Surg. Pathol., University of Pavia

The NSE in its isoenzimatic form is one of the most sensible and specific markers of lung oat-cell carcinoma (MA). The aim of our work is to verify the possible correlation between NSE serum concentration (cNSE) and both surgical (I,II,IIIa, UICC) and clinical (IIIb, IV, UICC) stages in lung ADK. From April '88 to June '91 200 patients suffering from lung carcinoma and 5 healthy controls underwent, at the time of diagnosis, cNSE by RIA method. cNSE 12.5 ng/ml were considered normal. Among 78 ADK we considered 74 cases for which a sure staging was possible: 50 patients undergone surgical excision and 24 in IIIb and IV clinical stage considered non operable. In 37 limited disease patients (I, II stages) the medium cNSE was 9.69 ng/ml vs. 19.78 in the 37 with advanced disease (III, IV stages) (p=0.0001). Patients submitted to operation had a cNSE presurgical average of 12.33 ng/ml, while at the 7th day post treatmet those values decreased to 9.29 (p=0.009). cNSE average of 9 recidivist cases at the 6th month after surgical therapy were: 22.24 ng/ml vs. 15.06 (p=0.01) at the diagnosis. Our observation seem to confirm the possible correlation betweeen cNSE and staging in ADK.

11.083

LIPOSOMES LABELLED WITH ANTI - CEA AND CA 19-9 : EFFECTIVENESS IN "VIVO" AS CARRIERS FOR RADIOISOTOPES.

G.P.Rombi^, F. Cossu^ and G. Melis *
^ Istituto di Radiologia Universita' di Cagliari.
*Servizio di Medicina Nucleare - Ospedale "G.Brotzu" - CAGLIARI

The aim of this study is to verify the selective targeting of Mab-labelled liposomes on patients affected by Colo-rectal tumors (CEA and CA 19-9 positives). The liposome composition was DPC, Cholesterol and 0.6 mcmol of SPDP modified DPE and monoclonal CEA/CA 19/9 (Fab')2 200 mcgr/ml with 8:1 mab-liposomes ratio. The patients infusion was carried out by using a 100 ml solution containing a final mab concentration of 15 mg and 131 Iodine with a total activity of 1.5 mCi.
The tumor uptake of 131-I have been tested by scintigraphic methods 12-48 and 96 hrs after liposomes infusion. The factor investigated are closely related to the infusion-time. Moreover the calculated enhanchement ratio of the Iodine uptake by using mab-labelled liposomes is 40 times higher than using standard iodinated mab.
Our results show that Mab-labelled liposomes are useful selective vehicles to specific target cells.

11.084

KILLING OF NEUROBLASTOMA AND PHEOCHROMOCYTOMA CELLS IN COLTURE WITH TETANUS-DIPHTHERIA HYBRID TOXINS

O. ROSSETTO[1], G. SCHIAVO[1], G. FERRARI[2], G. BASSO[3] and C. MONTECUCCO[1]
[1]Centro CNR Fisiologia Mitocondri-Istituto di Patologia Generale and [3]Dipartimento di Pediatria, Università di Padova and [2]Centro Ricerche FIDIA Spa, Italy

Human neuroblastoma and rat pheochromocytoma cells in colture, after differentiation with NGF, bind tetanus toxin (TeNT) with high affinity and specificity while a series of other tumor cells do not. This property has been exploited to test the possibility of killing specifically these cells. Diphtheria toxin (DT) has been conjugated to tetanus toxin or to its heavy chain to form chimeric toxins. Diphtheria toxin was chosen as cytoxic agent because of its extreme potency: once in the cytoplasm, one molecule is sufficient to kill a cell by blocking its protein synthesis. The TeNT component of the chimeric toxins is expected to mediate the binding to the neuronal cells and the insertion of DT into the cytoplasm. This occurrence is monitored by measuring the level of protein synthesis with respect to controls and vitality with dyes. The results presented in this communication show that two of the TeNT-DT conjugates are able to bind and penetrate into the cytoplasm as evidentiated by a high efficiency of cell killing caused by block of protein synthesis.