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

11.073

Expression of human cyclin A : a marker of cell proliferation in oncology

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We have identified the human cyclin A gene. Recent evidences from our and other laboratories indicate that cyclin A is not only a G2/M cyclin but also a S phase nuclear regulatory element. We have tested whether the amount of cyclin A transcripts and protein correlate with the number of proliferating cells in tumors.

Patients : 38 with PLC, 10 with haematological malignanciers (4 LAM_5, 1 LAM_4, 2 Burkitt's lymphomas, 1 LNH, 1 LMC, 1 HL).

Results : by northern blot and slot blot, 33/38 PLC tissues showed undetectable and 5/38 very low amount of cyclin A transcripts. Conversely, very strong signals were detected in haematological neoplasias with high number of blast cells (Burkitt's lymphomas, LNH, LAM_5, LAM_4) but not in haematological diseases without blast cells (LMC, Hyperleukocytosis). In 4/4 haematological tested cases (1 LMC, 1 LAM_5, 2 Burkitt's lymphomas) and in the Hep G2 cell line a strong correlation with the number of cells in S phase and cyclin A mRNA and proteins was detected.

Conclusion : our results show that the amount of cyclin A transcripts and protein is proportional to the number of proliferationg S phase cells. Therefore the human cyclin A should be considered as a new and reliable marker of cell proliferation in oncology.

11.075

MoAbs Against Cell Cycle Related Antigens

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Antibodies against cell cycle related nuclear proteins have proven to be useful for the determination of the growth fraction of tumours. However, reproducibility and intensity of the signal are problems frequently encountered using these antibodies. Moreover, the suspension of the cells of solid tumours requires proteolytic treatments which often interfere with the staining of the antigen. New antibodies could broaden the spectrum of tumours that can be reliably analyzed. Therefore, we have developed monoclonal antibodies against a novel nuclear antigen, named AF-2, which is present in all human cell lines tested so far and which shows a differential accessibility and distribution during the cell cycle. Mitotic and postmitotic early G1-phase cells are stained by the antibody whereas late G1-, S1,and G2-phase cells show no reaction. (Pfeffer and Vidali (1991) Exp. Cell Res. 193: 411-419).

11.077

Sonographic evaluation of soft tissue sarcomas (STS') local recurrence

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We conducted a retrospective study to investigate the possibility of STS'sonographic follow up in correlation with CT.26 patients who had undergone to excisional surgery for STS were studied. Sonography was performed with 5MHz linear transducer every three months. CT examination was performed only when sonography showed a lesion strongly suggestive of a local recurrence or expressed a diagnostic doubt. Resultswere correlatedwith surgical specimens. Sonography detected an expansive lesion in 26/26 cases (100%) and showed a local recurrence in 77% of patients. CT scan detected a local recurrence only in 61,5% of cases; all masses were greater than 5cm in diameter. In conclusion ultrasound examination should been seriously considered as the principal diagnostic method for STS' follow up.

11.074

TARGET VOLUME AND LINEAR RADIOACTIVE SOURCES FOR INTRACAVITARY BRACHYTHERAPY OF ENDOMETRIAL CARCINOMA

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Intracavitary brachytherapy (IB) is a major component of combined radiotherapy of endometrial carcinoma (EC). IB of EC is performed at the National Oncological Center using the simple afterloading method with linear radioactive ^{137}Cs sources (chains). The chains consist of several links.

Three types of target volume were identified for IB using tomodensitometry, hysterography, CT, hysterometry and hysteroscopy, which covered all EC patients. Adequate irradiation in IB is obtained with three chains and a suitable distribution of the activity of the radioactive sources along their length. The distribution of the activity was determined on a computer by the least squares method for a treatment dose of 70 Gy.

11.076

ULTRASONOGRAPHY AND FINE NEEDLE ASPIRATION (FNA) IN THE DIAGNOSIS OF FOCAL HEPATIC STEATOSIS

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Focal hepatic steatosis is a well defined pathology that is sometimes difficult to differentiate from other focal hepatic diseases such as metastasis. When ultrasonographic diagnosis is uncertain, we perform FNA. We report our experience on 16 patients, 10 with previous history of malignancy and 6 without. In the former group we found 7 metastasis and 3 focal steatosis. In the latter, an unexpected metastasis from a previously undiagnosed breast cancer was found; in 2 patients we found focal steatosis and in the last 2 the sample was inadequate. We suggest that FNA of suspicious hepatic lesions, especially in patients with previous history of malignancy, may help considerably in the diagnosis and management.

	Mets	Focal Steatosis	Inadequate
Neoplastic	7	3	-
Non neoplastic	1 *	2	2

* Breast Ca previously undiagnosed

11.078

Analytical Study of the Malignant Tumors by Using the Blood Language

- Pirtoli Mario -

In this paper the analytical study of the malignant tumors by using an exact methodology is described. The "Blood Language" is used to understand how the human body generates in itself the malignant tumor or Leukaemia and how the human body feeds the growth of the tumor. The meaning of "blood language" is described in the author's paper.

The pathology and the pathology strength of the person are studied by using the data detect directly from the blood, while the energy loss and the power loss of the blood caused by the pathology are analysed by using a graphic-analytical methodology to process the data. By continuously processing the data it is possible to get a better understanding of the blood strength failure, because of its pathology. The blood language is useful also to approach the analytical study of the H.I.V., (AIDS). The author designed the mechanical-elecctronic apparatus to detect and to process the data describing the blood informations. In the Analysis Department of the Regional General Hospital "Umberto 1°" of Ancona, the blood of more than 600 persons (pathology carrier and not) has been analysed and with the purpose to improve the research study, it has been irradiated also the blood of some pregnant women.(iodine 125)

The author reports also the definitions of " Blood Energy " and " Blood Power " which have been described in the paper (of the same author) " Study of Blood Energy and analysis of the Parameters determining the Blood Equilibrium ".