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PYRUVATE KINASE (PK) VARIANTS IN VARIOUS TUMOURS OF EXPERIMENTAL ANIMALS

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Previous studies indicated that tumour PK, in contrast to PK obtained from normal tissues, has different regulatory properties. It is less sensitive to normal negative effectors like fatty acids or ATP but acquires sensitivity to inhibitory action of L-cysteine. The assumption that this PK variant might be used as a marker of malignant transformation has been confirmed on a broad spectrum of experimental tumours. In polyacrylamide gel electrophoresis the sensitivity to L-cysteine is connected with slow migrating isoenzyme of PK obtained from nuclei of mouse, rat and hamster tumours.

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SERUM AND DIETARY LEVELS OF VITAMIN A AND BREAST CANCER: PRELIMINARY RESULTS IN A CASE-CONTROL STUDY

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The relationship between breast cancer and Vitamin A has been evaluated in a case-control study carried out at the National Cancer Institute in Milan. The study includes 200 cases of T₁₋₂ N₀M₀ breast cancer and 200 hospital controls. Serum levels of retinol β -carotene, Vitamins B₂, C, E, cholesterol and some other components have been determined from blood samples, while dietary intake of Vitamin A has been evaluated by a careful interview on dietary habits both in the cases and controls. In this paper the first results relating to the study of the relationship between serum levels of β -carotene, dietary amounts of Vitamin A and risk of breast cancer are reported. The results have been evaluated after stratification for the known or suspected risk factors for breast cancer (age of menarche, parity, use of oral contraceptives, menopausal status, quality and amount of intake of fats).

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COMPARATIVE STUDIES OF THE DRUG SENSITIVITIES OF HUMAN TESTICULAR AND BLADDER TUMOURS IN VITRO

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Testicular germ cell tumours usually respond to chemotherapy, whereas most other histological types of 'solid' tumour either are, or rapidly become, drug-resistant. In order to investigate the reason for this difference, the in vitro drug sensitivities of continuous cell lines derived from human testicular germ cell tumours and transitional cell cancers of the bladder were compared. The testicular tumour cell lines were on average five times more sensitive to cisplatin and adriamycin than the bladder cancer cell lines. While pharmacological and host factors are known to influence drug-sensitivity it is concluded that sensitivity to chemotherapeutic drugs is primarily determined by factors innate to the tumour cells. Continuous cell lines provide a model system with which it may be possible to determine why some histological types of tumour are more sensitive to the cytotoxic effects of chemotherapeutic agents.
