Uro 05

INVESTIGATIONS ON TUMOR PROLIFERATION AND SURVIVAL IN PATIENTS WITH RENAL CELL CARCINOMA

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There are only few reports on proliferation kinetics of renal cell carcinoma and their implications on survival of patients. In 105 pts.(76 male, 29 female; median age 59 years) we tried to determine proliferation kinetics by means of flowcytometry and in vitro autoradiography (double labelling technique). Tumor specimen were investigated 10-15 min. post operative removal. They were excised from the marginal and central areas of the primary tumor Results: Flowcytometry revealed a diploid DNA distribution in 26/105 patients (24%), hyperdiploid in 26/105 (24%), a hypodiploid in 4/105 (3,7%), a polyploid in 38/105 (35%), a tetraploid in 4/105 (3,7%), a hypertetraploid in 1/105 (0,9%), a hypotetraploid in 3/105 (2,8%), and an aneuploid distribution of DNA in 3/105 patients (2,8%). The labelling index varied between 5 and 15%. The duration of DNS synthesis phase was between 10-20 hours. There is no significant correlation between ploidy of tumor cell DNA and the histologic pattern. There is a trend for higher labelling indices in polyploid cells than in diploid ones. 85% of pts who had no distant metastases at time of operation live more than 3 years regardless of status of tumor cell ploidy. Patients with distant metastases at time of operation show statistically significant differences concerning survival. Those with diploid tumor cell DNA have a median survival of 8,5 months compared with those having other status of cell ploidy (4,5 months) In conclusion, the DNA distribution pattern seems to be of importance as prognostic factor in patients with renal cell carcinoma.

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Uro 06

ANTIGENIC EXPRESSION OF RENAL CANCER AS DETECTED BY LECTINS AND MONOCLONAL ANTIBODIES (mAb)

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To study patterns of membrane (M) associated antigens (ag) from renal Ca (CA),placenta(Plc),human fetal(FK) & adult kidney(K),tissue sections were looked for the presence of glycoproteins applying labelled ConA,WGA,RCA,SBA,PNA,UEA, as well as of M-bound aminopeptidase A(APA),-M(APM),-GT,AP, DAP-I,& major K brush border surface protein (SGP-ag). MAb against Plc trophoblast and CA should help in elucidating oncodevelopmental aspects of cell transformation. Mapping of renal CA revealed significant loss of markers APA,APM,AP, DAP-I,compared to K,due to depletion of 7 nm surface particles on CA M. Endothelial PNA receptors were found on CA but not on K & FK. PNA receptors of M from K,FK,CA were resistant towards incubation with proteinase K,trypsin,pepsin,lyso lecithin,butanol,triton,DOC,SDS,however,not after digestion with papain/bromelain. Release of PNA receptors from the M surface after papain digestion (FK,K)was documented by electronmicroscopy(gold-labelled PNA). Ab against ConA & WGA receptors (M of K)disclosed different expression of surface ag of 121 kD and 240 kD on M from CA,FK,Plc (quantified by image analysis device).After cell hybridization,several clonotypes were established recognizing epitopes on cyto/syncytiotrophoblast,collagen fibers,blood vessels,Hofbauer cells etc. Clones Plc-IF4,PlcIIF8,PLcIIE4 showed distinct stain of luminal epitopes of the distal tubule(FK,K) & trophoblast, however,failed to react with CA (n=5). In contrast, mAb HYP-I-143D12,HYP-IIE10,capable of recognizing M epitopes on CA, also revealed staining of outer trophoblast & of distal tubule (FK,K). MAb were selected reacting in very distinct patterns either with structures of CA,Plc, or with CA,cells of intestine,pancreatic ducts etc. Our results indicate: (1) microheterogenous expression of oncodevelomental-like antigens (2) possible development of CA not only from proximal but also from cells of the distal tubule.

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Uro 07

EVALUATION OF TUMOUR-ASSOCIATED CELLULAR AND HUMORAL IMMUNE REACTIONS IN DISSEMINATED RENAL CELL CARCINOMA (RCC)

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In order to prove the participation of immunologic mechanisms in the development of the disease, the following parameters of general and tumor-associated cellular immunity have been determined in 10 patients with disseminated RCC and compared to an age matched control group with non-neoplastic diseases: delayed hypersensitivity skin reaction (MULTI-TEST MERIEUX), determination of cell subsets by means of monoclonal antibodies - total T cells (Anti Leu 5), T helper/inducer cells (Anti Leu 3a), T suppressor/cytotoxic cells (Anti Leu 2a/b), natural killer cells (Anti Leu 11). macrophages, B-cells and T101-, IgA-, IgG- and IgM-receptor-positive cells- and Lymphocyte-Migration-Inhibition Test (LMI-Test) against autologous and homologous tumor tissue and recall antigens in vitro. Compared to the control group in patients with disseminated RCC the number of positive skin reactions were reduced (p 0.05) and a decrease in the percentage of total T cells (p 0.05), T helper/inducer cells (p 0.07) and macrophages was observed. After nephrectomy the percentage of natural killer cells increased (p 0.001), the other subsets didn't change. In the LMI-test a tumor-associated cellular immunity against autologous tumor tissue could only be observed in one patient, but against homologous tumor in 3 out of ten patients. Surprisingly in 6 out of 10 healthy controls an enhancement against homologous tumor tissue was observed, a phenomenon which we are going to examine further. These preliminary findings lead to the conclusion, that in disseminated RCC: 1. the overall cellular immunity measured by delayed hypersensitivity skin reaction against recall-antigens and the distribution of lymphocyte subsets and macrophages is altered, 2. tumor-associated cellular immunity by means of a reaction against tumor tissue in the LMI-test can only be demonstrated in rare cases. The mechanisms preventing the recognition of tumor-associated antigens and the induction of an immune response against autologous and homologous tumor tissue in spite of an only slight affection of general cellular immunoreactivity, will be examined further. We were able to detect a "coating effect" of certain fractions of cancer serum, which probably can be responsible therefore.

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Uro 08

ASSOCIATION OF CANCER OF THE LOWER URINARY TRACT WITH LIFE STYLE. A CASE-CONTROL STUDY.

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The objective of the present retrospective case-control study was to analyze whether the style of life plays a role in the induction of cancer of the lower urinary tract. A total of 431 tumor patients (340 males and 91 females) and an equal number of controls were interviewed using a standardized questionnaire. Epidemiologic evaluation was based on the relative risks (RR) of variables of matched pairs. A strong association was found for cigarette smoking in males (RR=3.3) and females (RR=2.9) compared with absolute non-smokers. This association was clearly dose- and time-dependent. Cigar smokers had a RR of 10.5 and pipe smokers of 4.5. The RR for regular coffee drinking was increased in males (1.8), but not in females. However, a significant association was only found with drinking of more than 4 cups daily (RR=2.0). Habitual male drinkers of beer had an overall RR of 1.6 as against non-drinkers or occasional drinkers. There was a clear dose-response relationship. Male drinkers of high-proof spirits revealed an elevated RR of 1.7 as well as increasing risks with increasing consumption. An increased RR for drinkers of coffee, beer and high-proof spirits was also observed after adjustment for cigarette smoking. Frequent consumption of canned foods was associated with an elevated RR in males (1.6) and especially in females (2.8). For males higher risks were also found with diets high in fat (RR 1.6) and rare consumption of fruit and vegetables (RR 1.7).

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