amount of 125I, reaction time, pH, and reaction volume on the labeling rate of the 125I-RSOAds-hTERT/PSA oncolytic adenovirus marker were measured. Radioactive oncolytic adenoviruses were isolated and purified by column chromatography; the radiochemical purities of the 125I-RSOAds-hTERT/PSA marker at different times were detected by paper chromatography. After the addition of radioactive iodine-labeled prostate cancer-specific oncolytic adenoviruses to prostate cancer cells, changes in the inhibitory rate were measured by methylthiazolyldiphenyl-tetrazolium bromide (MTT) assays.

Results: The radiochemical purity of the 125I-RSOAds-hTERT/PSA marker was >95%, and the marker was stable (93–94%) after storage at 4 ℃ for 7 days. The optimal conditions were 0.5 μL of 125I (about 0.2 mCi, 7.4 MBq), 25 μg of NBS, 100 μL of 8×10^9 viral protein (VP)/mL 125I-RSOAds-hTERT/PSA virus solution, 3 min of reaction time, pH 7.5, and 120 μL PBS. Radioactive iodine-labeled prostate cancer-specific oncolytic adenoviruses inhibited the proliferation of prostate cancer cells significantly.

Conclusions: Radioactive 125I labeling of the hTERT/PSA dual-regulated prostate cancer-specific oncolytic adenovirus is feasible, and the radiochemical purity of the marker was stable under defined conditions. Radioactive iodine-labeled prostate cancer-specific replication-selective oncolytic adenoviruses significantly inhibited prostate cell growth.

Keywords: Prostate tumor; selective oncolytic adenoviruses; radioactive 125I; inhibitory effects

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AB054. The role of urine ErbB3 protein in early diagnosis and prognosis evaluation of renal cell carcinoma

Chang Liu, Shaopeng Qiu

Department of Urology, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou 510080, China

Background: To study the expression of ErbB3 protein in renal cell carcinoma patients' urine and to explore the diagnostic value of ErbB3 protein in renal cell carcinoma.

Methods: (I) We collected 42 renal cell carcinoma patients' urine (including 31 clear cell renal cell carcinoma patients, 4 chromophobe renal carcinoma patients, 3 papillary cell renal carcinoma patients, 2 MTT renal carcinoma patients, 1 sarcomatoid carcinoma patient and 1 neurogenic renal carcinoma patient), 19 urinary calculus patients' urine, 40 urothelium carcinoma patients' urine, 33 prostate cancer patients' urine, 17 benign prostate hyperplasia patients' urine and 50 normal people's urine as control. ELISA was used to test the expression of ErbB3 protein in urine of different diseases. (II) We used SPSS 21.0 to analyze ErbB3 protein in urine of different diseases. Then we established the ROC curve of which diagnosing renal carcinoma and clear cell renal carcinoma by ErbB3 protein, respectively. Also, we analyzed the relation between ErbB3 protein in urine and the patients' BMI, creatinine, tumor diameter and underlying diseases such as hypertension and hyperglycemia.

Results: The content of ErbB3 protein was 18.9±26.4 pg/mL in renal cell carcinoma group, 17.8±26.6 pg/mL in clear cell renal carcinoma group, 3.1±37.4 pg/mL in urinary calculus group, 335.3±702.4 pg/mL in urothelium carcinoma group, 13.7±15.6 pg/mL in prostate cancer group, 40.4±52.4 pg/mL in BPH group and 59.0±54.7 pg/mL in normal group, respectively. The expression of ErbB3 protein in renal cell carcinoma group and clear cell renal cell carcinoma group was significantly lower than normal group($P<0.001$). Comparing with normal group, ErbB3 protein of urothelium carcinoma group has a higher expression and prostate cancer group has a lower expression on the contrary. The contents of ErbB3 protein in urinary calculus group and BPH group had no significantly differences with

normal group.

When diagnosing renal carcinoma by ErbB3 protein, the AUC of ROC was 0.790 (P≤0.001. When setting the cutoff as 11.714 pg/mL, the max Youden index was 0.519., the sensitivity was 0.619 and the specificity was 0.900. The Kappa value of diagnostic test was 0.530 (P≤0.001. In the same way, when diagnosing clear cell renal carcinoma by ErbB3 protein, the AUC of ROC was 0.802 (P≤0.001. When setting the cutoff as 13.9804 pg/mL, the max Youden index was 0.525., the sensitivity was 0.645 and the specificity was 0.880. The Kappa value of diagnostic test was 0.542 (P≤0.001. According to the most appropriate cutoff of renal cell carcinoma and clear cell renal cell carcinoma diagnostic test, we divided the renal cell group into ErbB3 high-expression group and ErbB3 low-expression group. Comparing the patients' BMI, tumor diameter and creatinine between two groups, there was no significant difference. There was no correlation between the ErbB3 content and patients' BMI, tumor diameter and creatinine by correlation analysis. Basing on the preoperative data, we divided the renal cell group into hypertension and normotension group, there was no significant difference between two groups about the ErbB3 content. Also, we compared the expression of ErbB3 between hyperglycemia and euglycemia groups, there was no difference. We got similar results in analysis of clear cell renal cell carcinoma.

Conclusions: (I) The expression of urine ErbB3 protein in renal cell carcinoma, clear cell renal carcinoma and prostate cancer was lower than normal people. (II) The expression of urine ErbB3 protein had no significant difference between urinary calculus group, BPH group and normal control. (III) The expression of urine ErbB3 protein in urothelium carcinoma was higher than normal people. (IV) When diagnosing renal carcinoma by urine ErbB3 protein, the AUC of ROC was 0.790. The diagnostic cutoff was 11.714 pg/mL, the max Youden index was 0.519, the sensitivity was 0.619 and the specificity was 0.900. The Kappa value of diagnostic test was 0.530. When diagnosing clear cell renal carcinoma by urine ErbB3 protein, the AUC of ROC was 0.802. The diagnostic cutoff was 13.9804 pg/mL, the max Youden index was 0.525, the sensitivity was 0.645 and the specificity was 0.880. The Kappa value of diagnostic test was 0.542. (V) There was no relation between the expression level of urine ErbB3 protein and patients' BMI, tumor diameters, creatinine, blood pressure and blood glucose in renal cell carcinoma and clear cell renal cell carcinoma.

Keywords: Renal cell carcinoma; ErbB3; ELISA; diagnostic test

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AB055. PKCε inhibits isolation and stemness of side population cells via the suppression of ABCB1 transporter and PI3K/Akt, MAPK/ERK signaling in renal cell carcinoma cell line 769P

Bin Huang, Shaopeng Qiu

Department of Urology, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou 510080, China

Background: In this study, to identify the function of PKCε in renal cancer stemness of 769P SP cells.

Methods: we reduced the expression of PKCε in 769P cells by using siRNA. Then, the ratios of sorted SP cells were evaluated. Moreover, cancer stem cell (CSC) phenotype of 769P SP cells was assessed by performing clone formation assays, drug sensitivity assays *in vitro* and *in vivo*.

Results: Down-regulation of PKCε suppressed the CSC potential of sorted 769P SP cells and inhibited proliferation potential, resistance to chemotherapeutics and *in vivo* tumor formation ability.

Conclusions: Our study reveals that PKCε contributed to the SP cells isolation from 769P cell line, proliferation, and resistance to chemotherapeutics. Thus, PKCε may work as an important mediator in cancer stem cell pathogenesis of renal cell cancer.

Keywords: PKC epsilon; side population cells; cancer stem cell (CSC); renal cell carcinoma

