

1815 The immunohistochemical expression of human kallikreins 5, 6, 10 and 11 in normal urothelium and urinary bladder cancer. Correlation with histopathological variables.

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There are suggestions that members of the human kallikrein gene family may function as tumor suppressors and show promise of being new cancer biomarkers. The aim of this study was to evaluate the immunohistochemical expression (IE) of four kallikreins (hK5, 6, 10, 11) in papillary urothelial urinary bladder carcinoma (PUUBC) and to correlate this IE with the histological malignancy and the invasiveness of the tumor. Included in the study were 41 transurethral resection specimens of PUUBC. Nineteen/41 (46%) cases were low-grade and 22/41 (54%) high-grade PUUBCs, respectively. Twenty-two/41 (54%) cases were low-stage (pTa and pT1a-invasion of the lamina propria), and 19/41 (46%) high-stage (pT1c-invasion of the submucosal and pT2) PUUBCs respectively. The immunohistochemical method of streptavidin-biotin-peroxidase using anti-hK5/6/10/11 monoclonal and polyclonal antibodies was performed. Chi-square test was used for the statistical analysis and a P value <0.05 was considered as significant. In the normal, adjacent to cancer urothelium, IE of all hKs was observed in the superficial umbrella cells and only in some scattered intermediate urothelial cells. Foci of urothelial dysplasia and urothelial carcinoma in situ mostly showed a full-thickness hK IE. In PUUBC, the IE pattern of all hKs concerned a full-thickness staining in the papillary areas and a diffuse staining in the invasive areas. Residual superficial umbrella cells were positive. The IE of all hKs was increased in relation to the staining of normal urothelium: 17/41 (41%) cases were positive for hK5, 20/41 (49%) for hK6, 11/41 (27%) for hK10 and 11/41 (27%) for hK11, respectively. A statistically significant correlation was observed among the IE of all hKs, except between hK10 and hK11. No statistically significant difference was observed between the IE of any hK and the histological grade and the pathological stage respectively. In conclusion, the IE of hK5/6/10/11 is up-regulated in PUUBC. The IE pattern of hK5/6/10/11 in the normal, dysplastic and cancerous urothelium suggests that these hKs could be markers of urothelial differentiation and may play a role in urothelial carcinogenesis. No hK seems to correlate with the histological malignancy and the invasiveness of PUUBC.