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Retrospective analysis of 25 immunohistochemical tissue markers for differentiating multilocular cystic renal neoplasm of low malignant potential and multicystic renal cell carcinoma

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Multilocular cystic renal neoplasm of low malignant potential (MCRNLMP) and multicystic renal cell carcinoma (MCRCC) are morphologically indistinguishable. MCRNLMP is a tumor composed entirely of numerous cysts, the septa of which contain individual or groups of clear cells without expansive growth. However, unlike MCRCC, neither recurrence nor metastasis have been reported in MCRNLMP. The aim of this study was to identify significant differential pathological characteristics in resected specimens from patients with MCRNLMP (n = 13) and MCRCC (n = 17) using immunohistochemistry of 25 tissue markers. Staining interpretation was performed semi-quantitatively using the H-score (0–300) or intensity score (0–3) and differences between groups were evaluated using the Fisher exact and Wilcoxon rank-sum tests. During a median follow-up of 66.2 months (1–141.9 months), there was only one case of recurrence in MCRCC among 30 patients. There were 19 (63.3%) at stage pT1a, 8 (26.7%) at stage pT1b and 3 (10%) patients at stage pT2. Tumor necrosis rate (0% vs. 52.9%) and median tumor size (3.2 cm vs. 4.1 cm) significantly differed between MCRNLMP and MCRCC samples. Among the 25 tissue markers, only HIF1a, PDGFRα, SMA, VEGFR1, VEGFR2, VEGFR3, CD10, CD31, CD34, CK7-tubule, TGAse-2 and Ki-67 showed significantly different expression between the groups. These tissue markers with differential expression between MCRNLMP and MCRCC can provide a clue to understanding their distinct pathophysiology.

Biography

Sung Han Kim has completed his MD from Seoul National University of Medicine, Seoul, Korea and Postdoctoral studies from National Cancer Center, Goyang, Korea. He is working as Clinical Staff, Associate Researcher and Director of Jinsoo Chung, Prostate Cancer Center, Korea. He has published more than 30 papers in reputed journals.

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