P-162

신장과 상부요로 종양으로 신장 절제술을 받은 환자에서 비 종양 조직에 대한 병리학적 검사의 임상적 가치

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Clinical Value of Pathologic Examination of Nephrectomized, Non-cancerous Specimen in Patients with Renal and Upper Urinary Tract Malignancies

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Purpose: Chronic kidney disease (CKD) is a worldwide health concern associated with increased cardiovascular disease and mortality. Although surgical resection remains the standard of care in the treatment of renal and upper urinary tract malignancies, nephrectomy is a recognized risk factor for developing CKD. Since a solitary kidney has been considered an absolute contraindication to percutaneous biopsy, histologic diagnoses in the patients received nephrectomy would be an obstacle. In this study, we investigated the clinical value of pathologic examination of noncancerous tissue from the resected kidney to determine unrecognized kidney disease as well as post-nephrectomy renal outcomes.

Materials and Methods: Between January 2010 and July 2012, 32 patients with renal cell carcinoma and 2 patients with transitional cell carcinoma received uninephrectomy or uninephroureterectomy. Three cases of malignancies occurred in the native kidneys in end-stage renal disease patients were excluded. The routine pathologic evaluation of noncancerous tissues was performed.

Results: Out of 31 patients, only 9 patients (29%) had normal kidney. Thirty-four cases of pathologic diagnoses were obtained because 3 patients had dual diagnoses. Of the 34 cases, 10 showed (29.4%) vascular diseases, 8 (23.5%) showed diabetic nephropathy, and 6 (17.6%) showed glomerulonephritis. Vascular diseases included 7 cases (20.6 %) of hypertensive nephrosclerosis, and 3 cases (8.8%) of ischemic nephropathy. In glomerulonephritis, there were 2 cases (5.8%) of IgA nephropathy and 4 cases (11.8%) of C1q nephropathy. Obstructive nephropathy was diagnosed in 1 case (3%). During the median follow-up period of 9 months, 14 patients (46.7%) experienced post-operative acute kidney injury (AKI) and 10 patients (32.3%) progressed to CKD. Among 12 patients who developed CKD or whose CKD aggravated, 10 patients (83.3%) experienced post-operative AKI. Patients who experienced AKI had higher rates of developing CKD (p=0.002, OR 16.3). No specific correlation was observed between the presence of pathologic diagnoses and the occurrence of AKI or CKD during our observation period.

Conclusion: Our study indicates that a routine pathologic examination of nephrectomized, noncancerous tissue will provide valuable information on the remnant kidney. Further studies based on a larger patient population will be needed to determine the influence of pathologic diagnoses on the long-term renal outcome.

Key Words: 신절제술, 종양, 비종양 조직
Nephrectomy, Malignancy, Noncancerous specimens