



Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care

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Clinical course of contralateral kidney in unilateral multicystic dysplastic kidney : a single-center, retrospective study

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Objectives : Multicystic dysplastic kidney(MCDK) is a non-inherited cystic kidney disease resulting in a non-functioning kidney due to abnormal kidney development. Compensatory hypertrophy of the contralateral kidney is present in about one-quarter of patients at birth and in 77% at follow-up, and is directly associated with involution of the MCDK. While several studies in childhood and adolescence have examined the impact of compensatory hypertrophy of the contralateral kidney on residual kidney function, data on Korean pediatric patients remain limited. This study aimed to investigate the long-term clinical course of the contralateral kidney in Korean children with MCDK.

Methods : We retrospectively reviewed the medical records of 71 pediatric patients diagnosed with unilateral MCDK who were followed for more than 12 months between January 2005 and December 2024.

Results : Of the 71 patients, unilateral MCDK was located on the left side in 39 cases (54.9%). The mean age at diagnosis was 1.1 months, and the mean follow-up duration was 7.3 years. The mean length of MCDK measured by ultrasonography in patients diagnosed within the first 3 months of life was 4.2 ± 1.7 cm. Sixty-six patients (93%) demonstrated complete or partial involution of MCDK by 2 years of age, while five patients who did not show regression by that age underwent nephrectomy. Compensatory hypertrophy (>2 SD) of the contralateral kidney was common in neonates, declined to its lowest point at 3–4 years of age, and subsequently increased through adolescence, reaching 81.8% by 9–10 years of age. No significant difference in estimated glomerular filtration rate was observed between patients with and without compensatory hypertrophy.

Conclusions : If complete or partial involution of unilateral MCDK in Korean children is confirmed by age 2, most lesions resolve spontaneously. Compensatory hypertrophy of the contralateral kidney increases progressively from birth, reaching approximately 80% of patients by age 10.