Pediatric renal neoplasms
(A clinicopathological study in pathology departments of Dr Sheikh children hospital and Imam Reza hospital in Mashhad during 15 years)

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Abstract

Background&Objective: Pediatric renal tumors represent approximately 7% of all childhood cancers and are completely different from those occurring in adults. The aim of this study was to make an analysis of clinical and pathological characteristics of these tumors.

Materials&Methods: In this descriptive study all of the pediatric patients diagnosed as having renal neoplasm in departments of pathology of Dr Sheikh children hospital and Imam Reza hospital from 1991-2006 were evaluated.

Results: 52 patients including 27 boys and 25 girls with mean age of 40.63 months were studied. Tumors involved each kidney in 24 (45.3%) and were bilateral in 5 (9.4%) patients. Abdominal mass was the commonest clinical symptom and sign. Congenital anomalies were presented in 6 (14.6%) patients. Histopathological examination showed Wilms tumor in 46 (86.8%), cystic partially differentiated nephroblastoma in 2 (3.8%), mesoblastic nephroma in 2 (3.8%) rhabdoid tumor of the kidney in 1 (1.9%), metanephric adenofiroma and low-grade tubulopapillary carcinoma in 1 (1.9%) and clear cell sarcoma of the kidney in 1 (1.9%) patient. 11 (20.8%) cases were in stage I, 16 (30.2%) stage II, 13 (24.5%) stage III, 8 (15.1%) stage IV and 5 (9.4%) stage V.

Conclusion: Although Wilms tumor is the commonest renal neoplasm in childhood there are also recently described entities such as metanephirc tumors and juvenile renal carcinoma that must be considered in histopathological evaluation of a pediatric renal neoplasm. Role of molecular and cytogenetic methods is increasing for classification and treatment of childhood renal neoplasms.

Key Words: Pediatric renal tumors, Kidney, Childhood cancer