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## Retrospective analysis to determine outcomes of patients with bilateral Wilms tumor undergoing nephron sparing surgery: 15-year tertiary single-institution experience

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**Purpose:** The purpose of this study was to describe our clinical experience with nephron sparing surgery (NSS) for bilateral Wilms tumor and evaluate the outcomes of patients treated at one of the largest pediatric medical centers in China.

**Methods:** Methods includes the medical records of children with bilateral Wilms tumor undergoing NSS in the Children's Hospital of Chongqing Medical University during a 15-year period were retrospectively analyzed. Data collection were composed of age at surgery, tumor response, tumor rupture during resection, final pathologic margins, use of radiation therapy, pathology reports, renal function and patient survival.

**Results:** A total of 18 eligible patients (10 males, 8 females) with bilateral Wilms tumor at a mean age of  $2.28 \pm 1.12$  years were identified. The administration of preoperative chemotherapy did not result in universally successful outcomes. All children underwent successfully unilateral or bilateral NSS, of which one had positive pathologic margins and five received radiation therapy postoperatively. The rates of tumor rupture and positive lymph nodes involvement were 11.1% and 19.4%, respectively. The pathological study showed favorable histology and unfavorable histology in 32 and 4 kidneys, respectively. The 4-years event-free survival and overall survival rates were 68.18% and 85.56%. In univariable analysis, tumor histology ( $p=0.0028$ ) and disease stage ( $p=0.0303$ ) appeared significantly associated with overall survival. After a median follow-up period of 41.5 months (range 10-89), three of the surviving patients were diagnosed with hypertension and one had renal insufficiency.

**Conclusions:** Our experience suggests that NSS has become a feasible and effective option with good oncologic outcomes. Further research, ideally in a multicenter randomized manner, is warranted to better assess the role of NSS in this challenging clinical scenario.