Key findings demonstrated that tumor characteristics significantly influenced survival outcomes. Non-primary tumors were associated with an eightfold increase in mortality risk (HR = 8.31, 95% CI: 1.64–42.04, p = 0.010), while progressive tumors increased mortality risk fivefold (HR = 5.14, 95% CI: 1.31–20.18, p = 0.019). Initial surgical intervention significantly reduced mortality risk by 65% compared to initial chemotherapy or alone (HR = 0.35, 95% CI: 0.14–0.92, p = 0.033). Enneking Stage II showed a borderline protective effect on survival (HR = 0.23, 95% CI: 0.05–1.13, p = 0.069). The statistical model showed good overall fit (Cox and Snell's R^2 – 0.71, p = 0.02) with high predictive accuracy.

Conclusion

Tumor characteristics and treatment modality were the most significant factors affecting survival in pediatric kidney tumor patients. Non-primary and progressive tumors substantially increased mortality risk, while initial surgical intervention offered significant survival benefits compared to chemotherapy alone. These findings suggest that early identification of tumor type and prioritization of surgical approaches, when feasible, may improve outcomes for pediatric kidney tumor patients. Treatment protocols should be tailored based on tumor characteristics, with special attention to high-risk variants requiring more aggressive management strategies.

IMPACT OF TUMOR CHARACTERISTICS AND TREATMENT ON SURVIVAL OUTCOMES IN PEDIATRIC KIDNEY TUMORS

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Introduction: Renal tumors are among the most common malignancies in pediatric oncology, necessitating tailored treatment approaches to improve survival outcomes. This study aims to identify prognostic factors influencing survival in children with kidney tumors treated at a tertiary-level hospital in Tashkent, Uzbekistan.

Methods: A retrospective cohort of 108 children diagnosed with renal tumors was analyzed using Cox proportional hazards regression. Eight cases (7.4%) were excluded due to missing data, leaving 100 patients for analysis. The cohort consisted of 44 males (44%) and 56 females (56%), with a median age of 2.07 years (IQR: 0.95–4.01). Tumor characteristics included primary tumors in 88 patients (88%), progressive tumors in 10 patients (10%), and non-primary tumors in 4 patients (4%). Local growth into neighboring organs was observed in 40 cases (40%), and metastasis to distant organs was seen in 28 cases (28%). Histological analysis revealed nephroblastoma (Wilms tumor) as the most common diagnosis (95%), followed by mesoblastic nephroma (3%) and adenocarcinoma (1%).

Results: Tumor characteristics and treatment modality significantly influenced survival outcomes. Non-primary tumors were associated with an eightfold increase in mortality risk (HR = 8.31, 95% CI: 1.64–42.04, p = 0.010), while progressive tumors increased mortality risk fivefold (HR = 5.14, 95% CI: 1.31–20.18, p = 0.019). Initial surgical intervention reduced mortality risk by 65% compared to chemotherapy alone (HR = 0.35, 95% CI: 0.14–0.92, p = 0.033). Other variables, including age, sex, tumor size, local growth, and metastasis status, were not statistically significant predictors.

Conclusion: Non-primary and progressive tumors significantly increase the mortality risk in pediatric kidney tumor patients, while surgical intervention offers substantial survival benefits compared to chemotherapy alone. Early identification of high-risk tumor types and prioritization of surgical approaches may improve outcomes for this vulnerable population.

SURGICAL TREATMENT OF PEDIATRIC DRUG-RESISTANT EPILEPSY.

Experience of the National Children's Medical Center, Tashkent, Uzbekistan

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