O-075 Prognostic Value of Age in Patients with Wilms Tumour Treated According to International Society of Paediatric Oncology (SIOP) 93-01 and SIOP 2001 Protocols


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Background/Objectives: Age has been suggested to be a prognostic factor for recurrence and mortality in patients with Wilms tumour (WT). In this study, we assess the prognostic value of age at diagnosis, per year/categorized, for 5-year event-free survival (EFS) and overall survival (OS) was assessed using the Kaplan Meier method, log-rank test and multivariable Cox regression models. Martingale residual plots were used to assess the functional form of age. The multivariable analysis was adjusted for gender, biopsy (yes/no), pathological stage, histological classification and tumour volume at surgery.

Design/Methods: Patients (6 months-18 years) with stage I-IV WT were derived from the SIOP93-01 and SIOP2001 database. Only patients who received preoperative chemotherapy were included. The prognostic value of age at diagnosis, per year/categorized, for 5-year event-free survival (EFS) and overall survival (OS) was assessed using the Kaplan Meier method, log-rank test and multivariable Cox regression models. Martingale residual plots were used to assess the functional form of age. The multivariable analysis was adjusted for gender, biopsy (yes/no), pathological stage, histological classification and tumour volume at surgery.

Results: 5386/7880 patients met the inclusion criteria; stage I: 46%, stage II: 23%, stage III: 17%, stage IV: 15%. Median age at diagnosis was 3.4 years (interquartile range, IQR: 2.0–5.1) and median follow-up was 6.3 years (IQR: 3.0-8.6). Estimated 5-year EFS and OS were 84% (95%CI 83.3-85.3) and 93% (95%CI 91.9-93.4), respectively. Assessment of martingale residual plots suggested a linear trend for age in both EFS and OS. Significant differences in EFS and OS were found between ages < 2, 2-4, 4-10 and ≥ 10 (log-rank p < 0.0001). In multivariable analyses, increasing age was associated with poorer EFS (linear trend p < 0.0001). OS was lower in patients ≥ 4 years compared to patients < 2 years (HR= 1.32, 95%CI 1.13-2.57). No linear trend was found. Higher stage, histological risk group and volume were associated with poorer OS and EFS in univariable and multivariable analyses.

Conclusions: Survival worsens with increasing age in patients with WT. However, our results do not seem to justify the use of age cutoffs for risk stratification in pretreated patients.