

two BE₃₆₀P cycles. 111 is the largest prospective trial investigating adjuvant BE₅₀₀P x1 in high-risk stage one NSGCT. The adoption of BE₅₀₀P x1 as standard would reduce overall exposure to chemotherapy in this young population.

GCT-10 Outcomes of adolescent males with extracranial metastatic germ cell tumours compared with children and young adults: A report from the Malignant Germ Cell Tumour International Consortium (MaGIC) group

F. Shaikh¹, D. Stark², H. Dang³, C. Xia³, M. Krailo³, S. Stenning⁴, F. Pashankar⁵, C. Rodriguez-Galindo⁶, T. Olson⁷, S. Depani⁸, S. Stoneham⁹, J. Nicholson¹⁰, M. Murray¹⁰, J. Amatruda¹¹, D. Billmire¹², A. Fonseca¹, A. Lindsay Frazier¹³

¹The Hospital for Sick Children, University of Toronto; ²Leeds Institute of Cancer and Pathology; ³Children's Oncology Group; ⁴Medical Research Council Clinical Trials Unit at University College London; ⁵Yale Cancer Center; ⁶St Jude's Children's Cancer Hospital; ⁷Aflac Cancer Centre, Children's Healthcare of Atlanta, Emory University; ⁸University of Birmingham; ⁹Children's and Young Persons Cancer Services, University College London Hospital Trusts; ¹⁰Cambridge University Hospitals NHS Foundation Trust; ¹¹University of Texas Southwestern Medical Center and Children's Medical Center Dallas; ¹²Riley Hospital for Children; ¹³Dana-Farber Cancer Institute

Background: Adolescents with extracranial malignant germ cell tumours (GCTs) are often treated on the same regimens developed for children, but more closely resemble the clinical characteristics of young adult patients. We sought to determine whether event-free survival (EFS) for adolescents with GCTs was more like that of children or young adults.

Methods: We assembled an individual patient database of eleven GCT trials: eight conducted by paediatric cooperative groups and three by an adult group. We selected male patients aged 0–30 years treated with platinum-based chemotherapy for metastatic, nonseminomatous malignant GCTs of the testis, retroperitoneum, or mediastinum. We categorized age-group as children (0 to <11 years), adolescents (11 to <18 years), or young adults (18 to <30 years). We compared EFS and adjusted for calculated IGCCCG risk-group using Cox proportional hazards analysis.

Results: 593 patients met inclusion criteria, of whom 90 were children, 109 were adolescents, and 394 were young adults. The 5-year EFS for adolescents (72%; CI = 62–79%) was significantly lower than for children (90%; CI = 81–95%, $p = 0.003$) or young adults (88%; CI = 84–91%, $p < 0.001$). Risk-group was significantly associated with EFS in the adolescent age-group ($p = 0.002$). In a Cox multivariable analysis, the difference between adolescents and children remained significant (HR = 0.30, $p = 0.001$), but the difference between adolescents and young adults did not (HR 0.66, $p = 0.114$). EFS for adolescent patients with extracranial metastatic GCTs was similar to young adults but significantly worse than children. This finding may have important implications for how adolescent patients are treated.

GCT-11 Site of extranodal metastasis impacts survival in patients with testicular germ cell tumours

N. Singla MD^{1,*}, H.D. Patel MD, MPH^{2,*}, R.A. Ghandour MD¹, Y. Freifeld MD¹, S.L. Woldu MD¹, P.M. Pierorazio MD², A. Bagrodia MD¹
¹Department of Urology, University of Texas Southwestern, Dallas, TX, USA; ²The James Buchanan Brady Urological Institute and Department of Urology, Johns Hopkins University School of Medicine, Baltimore, MD, USA

*Co-First Authors

Background: We systematically evaluated the impact of the location and burden of extranodal testicular germ cell tumour (TGCT) metastases on survival using a large, nationally representative population-based cancer registry.

Methods: Men with stage III TGCT captured by the Surveillance, Epidemiology, and End Results registry from 2010–2015 with distant extranodal metastases were identified. Clinicopathological information were collected, and patients were subdivided based on specific organ site(s) of metastatic involvement (lung, liver, bone, and/or brain). Kaplan–Meier analysis and multivariable Cox regression were used to evaluate cancer-specific survival (CSS), and model performance was assessed using Harrell's C-statistic.

Results: 969 patients with stage III TGCT were included, with predominantly nonseminomatous histology (84%). Most patients (91%) had pulmonary metastases, while 20%, 10%, and 10% had liver, bone, and brain metastases, respectively. Over a median follow-up of 21 months, 19% of men died of TGCT. When grouped by primary site of metastasis, patients with more than one extrapulmonary metastasis exhibited the worst CSS (HR 4.27 (95% CI 2.60–7.00), vs. isolated pulmonary involvement, $p < 0.01$). Among patients with isolated extrapulmonary involvement, those with brain metastases had the poorest survival (HR 3.24 (95% CI 1.98–5.28), $p < 0.01$), followed by liver (HR 2.29 (95% CI 1.56–3.35), $p < 0.01$) and bone (HR 1.97 (95% CI 1.11–3.50), $p = 0.02$). Multivariable Harrell's C-statistic was 0.71. Site of metastatic involvement impacts survival outcomes in patients with TGCT, which may reflect both the aggressive biology and challenging treatment of these tumours. Further incorporation of organotropism into current prognostic models for metastatic TGCT warrants attention.

GCT-12 Pattern of events in children, adolescents and young adults with testicular germ cell tumour (TGCT): The MAKEI-experience

M. Heimbrodt¹, P. Hillebrand¹, S. Schönberger¹, D.T. Schneider², C. Teske¹, I. Leuschner³, C. Vokuhl³, D. Harms³, U. Göbel⁴, G. Calaminus¹
¹Department of Paediatric Hematology and Oncology, University of Bonn, Bonn, Germany; ²Clinic of Paediatrics, Municipal Hospital, Dortmund, Germany; ³Paediatric Tumour Registry, Dept. of Paediatric Pathology, University of Kiel, Kiel, Germany; ⁴Coordination Center for Clinical Studies, ESPED Surveillance Unit, University Düsseldorf Germany

Supported by the German Cancer Aid and the Barbara and Hubertus Trettner foundation.

Background: TGCT comprise children, adolescents and young adults. Outcome is excellent in young boys, whereas in adolescents this is dependent on stage and tumour composition.

Methods: Between 1st January 1996 and 31st of March 2017, 1895 patients with GCT were treated according to consecutive MAKEI protocols. 375 patients had TGCT: 89 teratoma, Lugano stage I, 286 malignant GCT who presented with stage Lugano I: 154, Lugano II: 102 and Lugano III: 30.

Results: In teratoma patients no events occurred. In 286 malignant TGCT, 28 events occurred. 8/28 died of disease (DOD) at first treatment. 7/8 who died had choriocarcinoma (CHC). The other events were: 18 relapses, one progression, one second malignancy. 16/18 relapsed were adolescents. 16/18 patients had mixed malignant histologies at primary diagnosis. Events in Lugano I were one secondary tumour and 4 relapses, 2 after watch and wait and 2 after platinum-based chemotherapy. All of them could be salvaged by additional platinum-based chemotherapy. In Lugano II/III, all patients received platinum-based chemotherapy at initial treatment. In Lugano II, 11 events were reported, two DOD in first therapy and 9 relapses. 8 of them could be salvaged by surgery, platinum-based or another