3rd (GCT-2008 protocol) was admitted 18 months ago. No patients with CNS as primary site of GCT disease were included.
Results: From 120 patients with pure germinoma component, 109 were female, 9 testicular, 107 ovarian, 1 sacrococcygeal, 2 mediastinal and 1 retroperitoneal. Increased AFP was seen in 10 of 83 patients with this information, BHCG 33/88, LDH 46/76. For the entire group 10 y OS was 94.8%. According with staging 47 Stage (S)-I, 18 S-II, 46 S-III, 9 S-IV (10 y OS with no statistical significance). Ovarian cases were 107, 42 S-I, 17 S-II, 41 S-III and 7 S-IV. Non-metastatic 81 (10 y OS 96.2%), 20 lymph node metastases (94.7%) and 6 other (liver, lung or both; 10 y OS 100%). S-I+II were 59 patients (10 y OS 96.5%) and 48 S-III+IV (95.7%). No statistical significance was found for age (< or > 11 years), increased LDH, alpha-fetoprotein or BHCG. Our data suggests that no patient should be treated as high-risk. Complementary analysis should be done among S-II and S-III to define which patients should receive chemotherapy and which should be classified as low-risk and receive no chemotherapy.

Clinical Trials and Updates II

GCT-39 Outcome of children with malignant germ cell tumours by response status at the end of induction chemotherapy

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Background: The management of paediatric malignant germ-cell-tumours (MGCTs) includes induction therapy with 3–4 cycles cisplatin/etoposide/bleomycin (PEb). The current practice recommends 2–3 cycles of PEb (total 6 cycles) as consolidation therapy if response is not complete at end-of-induction (EOI), different to that used in adult patients who receive a standard number of cycles. No evidence exists supporting a PEb consolidation phase in paediatric MGCT patients.
Methods: We retrospectively reviewed all patients enrolled in a phase III, single-arm trial for low-risk and intermediate-risk MGCTs (AGCT0132). All patients received 3 PEb cycles and underwent response assessment at EOI. Complete response (CR) was defined as negative tumour-markers and no viable residual lesion. Patients in CR received no further chemotherapy. Patients not in CR received 3 additional PEb cycles as consolidation. Event-free survival (EFS) and overall survival (OS) was calculated using Kaplan-Meier method.
Results: Among 210 patients enrolled, 193 patients had CR at EOI, and their post-induction 4 yr-EFS and OS was 93% and 99%. Fifteen patients were not in CR at EOI and received additional chemotherapy; their 4 yr-EFS and OS was 51% and 60%, respectively. Children with MGCTs with partial response after EOI had inferior outcomes despite additional cycles of PEb chemotherapy. Consolidation is therefore of unclear benefit. Although our results are limited by small sample size and lack of comparator, we propose that paediatric MGCT patients who fail to achieve a CR after standard induction chemotherapy should receive a salvage regimen with different agents rather than consolidation with more cycles of the same chemotherapy.

GCT-40 Alpha-fetoprotein (AFP) as a predictor of outcome for children with germ cell tumours: A report from the Malignant Germ Cell International Consortium (MaGIC)

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Background: Several studies describe the correlation between unsatisfactory tumour marker decline and poor prognosis in adult patients treated for germ-cell-tumours (GCTs). In paediatric patients data is limited. We retrospectively analyzed data collected from paediatric patients treated on Children's Oncology Group (COG) Protocol AGCT0132 to determine whether a relationship exists between AFP decline and outcome.
Methods: One hundred and thirty-one patients with GCTs enrolled on Children's Oncology Group Protocol AGCT0132 were eligible for analysis of AFP decline. Serum AFP half-life was calculated from levels collected post-operatively, as a baseline, and after the start of chemotherapy, excluding values in the first 7 days of chemotherapy to accommodate unpredictable increases in the initial days of treatment. AFP decline was defined as automatically satisfactory (AFP normalized within the first two AFP measures following the start of chemotherapy), calculated satisfactory (AFP half-life $\leq$7 days following the start of chemotherapy), and unsatisfactory.
Results: The 3-year cumulative incidence of relapse (CI-R) was 11% (95% confidence interval - CI: 6.0–18%) for patients with satisfactory decline and 38% (95% CI: 13–64%) for unsatisfactory decline ($p = 0.006$). In stratified analyses, this effect was limited to patients $\geq$11 y and standard-risk (SR2) disease ($p = 0.004$ and $p = 0.007$, respectively). Three-year overall-survival for patients with satisfactory versus unsatisfactory decline was not statistically significant. This study is the first to show association between AFP decline and CI-R in paediatric patients. Although no association between marker decline and outcome was shown, recognition of patients at high-risk of relapse may allow early therapy intensification and impact future clinical trial design.

GCT-41 Outcomes of the use of carboplatin in the treatment of paediatric malignant germ cell tumours (GCTs) in the UK – Experience from GCII and GCIII trials

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