chemotherapy had excellent outcomes. Future larger studies are needed to compare the outcomes between CSI only and chemotherapy with low-dose CSI among patients with metastatic CNS BGTG.

GCT-09. TRANSCRIPTOME AND METHYLOME PROFILES OF CNS GERM CELL TUMORS AND THEIR COMPARISON WITH TESTICULAR COUNTERPART

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BACKGROUND: The pathophysiology of CNS germ cell tumors (GCTs) has yet to be fully unraveled, resulting in the paucity of treatment options. The biological comparison with its testicular counterpart has not been interrogated. METHODS: In total, 84 cases of CNS GCT were investigated for methylation and transcriptome analyses, and an integrative analysis of the normal cells undergoing embryogenesis and testicular GCTs was conducted. RESULTS: Transcriptome analysis revealed germinoma and non-germinomatous GCTs (NGGCTs) were clearly separated. On transcriptome, germinoma was characterized by primitive cell state, closely related to primordial germ cell (PGC) with meiosis/mitosis potentials. NGGCT had a feature of more differentiated cell state directed toward organogenesis. Germinoma was subdivided into two clusters on integrated transcriptome and methylation analysis, and they are different in the age distribution and tumor cell content. CNS and testicular GCTs were divided based on histology, either germinoma/seminoma or NGGCT/non-seminomatous GCTs on methylation. Expression analysis mainly clustered them depending on the site of origin and histology. CONCLUSIONS: Expression profiles of CNS GCTs distinctly reflect the histological variabilities. Germinoma may be clustered into two groups, with possible differentiation in treatment intensity in the future. GCTs at CNS and gonads seem to have a mutual cell-of-origin and similar genomic backgrounds, which potentiates site-agnostic treatment development.

GCT-10. SUCCESSFUL SALVAGE OF RELAPSED INTRACRANIAL NON-GERMINAOTEOUS GERM CELL TUMORS NGGCTS IN A CHILD WITH RENAL INSUFFICIENCY WITH NOVEL PLATINUM-FREE CHEMOTHERAPY REGIMEN

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The Outcome for relapsed NGGCT is poor. Salvage therapy usually consist of reinduction platinum-based chemotherapy regimen followed by high-dose-chemotherapy and autologous-stem-cell-rescue (HDC/AuSCR) and re-irradiation with no consensus on optimal management and usually associated with remarkable toxicity. We present a 12-year-old boy diagnosed with a localized pineal Non-Germinaoteous Germ Cell Tumors NGGCTs of mixed origin with elevated AFP he had ETV and biopsy started on COG ACNS0122 protocol after receiving first cycle (carbo/Etoposide) he developed acute renal failure investigation showed small dysplastic kidney to avoid nephrotoxicity of platinum agents chemotherapy changed to VBE (Vinblastine, Bleomycin and Etoposide) post 3rd cycle MRI showed increase in size of the pineal mass with normal tumor markers representing Growing Teratoma Syndrome He had total surgical resection of the tumor Pathology showed predominant teratoma component He received radiation therapy CSI then another 3 cycles of VBE 4 months following treatment completion he presented with elevated AFB and new right anterior temporal lesion Spinal MRI and CSF were negative. He had 2 cycles of Salvage Non-nephrotoxic 4-drug regimens GEMPIV Gemcitabine 800 mg/m2 days 1 and 14. Paclitaxel 80 mg/m2 days 1 and14, Irinotecan 50 mg/m2 daily for 5 days Vinblastine 6 mg/m2 weekly days 1,8,14 MRI after 2 cycles showed remission with undetectable AFP then 2 consolidation cycles of etoposide and thiotepa (HDC/AuSCR) The 3rd consolidation cycles were cancelled due to hematological toxicity During treatment phases chemotherapy was well tolerated doses were adjusted according to his GFR with renal conservative and supportive therapy.post (HDC/AuSCR) he experienced delayed hematological recovery with persistent thrombocytopenia responded to Eltrombopag then he had focal Temporal lobe irradiation Currently patients in remission with chronic stage 3 renal Insufficiency Conclusions: this case showed that relapsed intracranial NGGCT can be successfully salvaged without platinum-based chemotherapy in patients with renal insufficiency.

GCT-11. 24 GY WHOLE VENTRICULAR RADIOTHERAPY ALONE IS SUFFICIENT FOR DISEASE CONTROL IN LOCALISED GERMINOMA IN CR AFTER INITIAL CHEMOTHERAPY – FINAL OF THE SIOP CNS GCT II STUDY

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SIOP CNS GCT II aimed to establish if 24 Gy Whole Ventricular Radiotherapy (WVRT) in localised germinoma is sufficient for tumour control. After central review of radiological response after 'CarboPEI' chemotherapy, patients in complete remission (CR) were consolidated with 24 Gy WVRT. Between 2/2012 and 7/2018, 194 patients from 8 European countries with histologically-confirmed fully-staged localised germinoma were registered, of whom 167 were protocol pts. CR after chemotherapy was achieved in 65 patients, Of the 102 patients not in CR after chemotherapy 91 had partial remission (PR), 8 stable disease (SD), 3 progressive disease (PD). All 65 patients in CR received 24 Gy WVRT alone; two of these relapsed, both locally, 7 and 12 months after diagnosis. Of the 102 non-CR patients after chemotherapy, 91 with PR and 8 with SD received 24 Gy WVRT and 16 Gy boost, of which five relapsed (four local, one distant) 2 -7 years from diagnosis. One additional patient who remained in CR died of infection in CR, 4 years after Dx. In three patients with PD all received 24 Gy ventricular irradiation with varying tumour boosts. 16-30 Gy, no relapses occurred. Median follow-up of the whole group was 4,2 years. 4- years event-free survival (EFS) for patients in CR treated with WVRT only (n=65) was 97% (standard error 2%). 4-years EFS for patients with non-CR (WVRT 24 Gy and 16 Gy to 30 Gy tumour boost) (n=102) was 95% (standard error 2%). Localised germinoma in CR after chemotherapy had an excellent outcome with 24 Gy WVRT alone. 24 Gy WVRT is therefore considered the standard consolidation treatment in this group and should be used as the standard for further treatment studies in localised germinoma evaluating the recent international consensus on radiological response criteria (Lancet Oncology accepted).

GCT-12. SIOP CNS GCT II: HIGH RISK (HR) CNS NON-GERMINOMATOUS GERM CELL TUMOURS (NGGCT) TREATED WITH DOSE INTENSIFIED PEI – FINAL RESULTS

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