exposure to TMZ at a low dose induced lymphopenia and might be responsible for a higher rate of viral infections.

4108 POSTER

Reduced intensity conditioning regimen and allogeneic stem cell transplantation from related or unrelated HLA identical donor in high risk neuroblastoma

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Background: To evaluate the feasibility and efficacy of a reduced intensity conditioning regimen (RIC) followed by allogeneic stem cell transplantation (SCT) from related or unrelated HLA identical donor (MUD) in neuroblastoma (NB) poor responder to front line therapy or relapsed after a previous autologous stem cell transplantation.
Methods: 19 patients (pts), aged 3−17 years, affected by resistant (5) or relapsed (14) NB were enrolled and submitted to an SCT after a RIC consisting of Thiotepa 15 mg/kg and Melphalan 140 mg/sqm. The donor was an identical sibling in 11 cases or a MUD in 8. At time of transplant 14 pts were in any kind of remission of disease and 5 in progressive disease. Graft versus host disease (GVHD) prophylaxis consisting of Cyclosporin A $\pm$ Anti-lymphocytic serum and short term methotrexate in MUD setting. Stem cell sources were bone marrow in 15 cases and peripheral blood in 4.
Results: The reconstitution of bone marrow function was obtained in all the 19 pts after a median time of 12 and 17 days for PMN and PLT respectively in sibling setting, and 14 and 17 days in MUD setting. Acute GVHD of grade II-III occurred in 7 pts and a complete marrow donor chimerism was observed after 40 and 60 days in sibling and MUD setting respectively. After a median follow-up of 25 (6−41) months, 9 pts relapsed, 6 dead for progressive disease and 10 are alive and well. The median time of relapse from SCT was 9 (3−25) months. No pts dead for treatment related causes (TRM). The 3 years probability of overall survival (OS) and event free survival (EFS) of the entire cohort of pts were respectively 0.58 (0.13) and 0.30 (0.13), with a better SUR and EFS for pts who developed grade II-III acute GVHD (SUR 0.67 versus 0.44; EFS 0.30 versus 0.22), were in any kind of stable disease (SUR 0.62 versus 0.53; EFS 0.41 versus 0 p = 0.041), received a MFD graft (SUR 0.62 versus 0.50; EFS 0.32 versus 0.25).
Conclusions: Our experience show the feasibility and efficacy of a RIC with SCT from HLA MFD or MUD in the treatment of relapsed or refractory NB. In fact no patient suffered TRM. Moreover in a setting of pts who the 3 years probability of survival is nearly to zero, in our experience more than 50% are alive and well. The observation that the develop of acute GVHD is related to a better outcome may offer the evidence of graft-versus-tumour in NB.

4109 POSTER

Rodent parvovirus H1 induces lytic infection in human neuroblastoma cells and down-regulates N-myc expression in N-myc amplified neuroblastoma cell lines

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With about 15% of all deaths in pediatric oncology advanced localized and high risk neuroblastoma remains a main therapeutic issue. Thus, despite applying multimodal therapeutic concepts, new modalities for the treatment of neuroblastoma are urgently required. H1-PV is an oncolytic wildtype Parvovirus in rodents. So far, no relevant pathogenic effects have been observed in laboratory animal populations, widely infected with H1-PV. Additionally, no pathogenicity and low immunogenicity of H1-PV infection have been observed in humans. Here, we investigated, whether the oncolytic H1-PV is cytotoxic for neuroblastoma cells.
Neuroblastoma cell lines with different MYCN status as well as normal primary cells of different origin were infected with H1-PV. We determined infection efficacy, viral replication, lytic activity and cell viability and effects of H1-PV on N-myc expression in vitro.
Non-neoplastic infant cells (myocardial myocytes, glia cells, astrocytes and neuronal cells in short term culture) could be shown to be unaffected in viability and morphology by H1-PV. In contrast, all 11 neuroblastoma cell lines analyzed were infectable with H1-PV, and H1-PV actively replicated in neuroblastoma cells with virus titres increasing up to 10.000-fold within 48 to 96 hours after infection. Parvovirus H1 induced lytic infection in all 11 neuroblastoma cell lines after application of MOIs between 0.001 and 1 pfu/cell. The lytic effect of H1 was independent of MYCN oncogene amplification or differentiation status of the respective cell line. Moreover, H1-infection could be demonstrated to down-regulate the protein level of N-myc in N-myc amplified neuroblastoma cell lines.
The application of H1-PV appears to be a promising treatment option for neuroblastoma. The treatment efficiency is currently analyzed in a rat xenotransplant model.

4110 POSTER

Survivors after childhood malignant lymphoma (MLCSs): what do they know about their diagnosis and treatment?

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Background: MLCSs are at risk for long term effects, but need to have knowledge about their diagnosis, treatment and possible late effects in order to take responsibility for their own health.
Methods: 215 adult MLCSs were invited to participate, 145 (67%) responded. So far 115 MLCSs have completed physical examination, blood sampling, cardiopulmonary tests and responding to a questionnaire evaluating health problems. Before the clinical examination, they were interviewed about their awareness of their malignancy and treatment. Their responses were compared with medical record data.
Results: Sixty-two were males (54%), 53 females (46%). Median observation time was 21 years (range: 7−37 years). The median age at diagnosis was 13 years (2−18), the median age at survey was 34 years (19−55). 71 (62%) had Hodgkin lymphoma (HL), 44 (38%) had non-Hodgkin lymphoma (NHL). 108 (94%) reported their diagnosis correctly, 7 (6%) reported that they had cancer, but did not identify malignant lymphoma. 28 (26%) could not differentiate HL vs NHL.
103 patients (90%) had been treated with chemotherapy (CT), of whom 37 with CT only. 78 patients (76%) had undergone radiotherapy (RT), 12 with RT only. 66 patients (64%) had been treated with both CT and RT.
109 of 115 (95%) reported their treatment modalities correctly. Among the 103 treated by chemotherapy, 73 (71%) did not know the name of any cytostatic drug. Of the 78 who had received radiotherapy, 73 (94%) described the radiation site precisely. Only 13 (11%) had – on request – received a written summary of their disease and treatment, and 96 (84%) reported that they were not regularly followed as to long-term effects. 75 (65%) were not aware of the risks for long-term effects and consequences of their treatment.
Conclusion: MLCSs in Norway seem to have a sufficient level of knowledge about their diagnosis and treatment modality. But they have a low level of knowledge about consequences and long-term toxicity. In general they have received verbal, but not written information about their disease and treatment. Improved communication seems necessary between MLCSs and the responsible health care team, both at the end of oncological follow-up and during subsequent years.

4111 POSTER

Esthesioneuroblastoma in children and adolescents: experience on 11 cases with literature review

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Background: Esthesioneuroblastoma (ENB) is an uncommon malignancy developing from the olfactory placode, in the superior nasal vault. Purpose of this study was to review the cases of paediatric ENB treated at the Pediatric Department of the Institute Gustave Roussy (IGR).
Material and Methods: Between 1982 and 2002, eleven children and adolescents with histologically proven olfactory neuroblastoma were treated at IGR. Therapy included chemotherapy, administered before surgery, and radiotherapy.
Results: 10 out of 11 patients received chemotherapy. Only one patient underwent surgery before radiation therapy and did not receive chemotherapy. All patients underwent radiotherapy. The response to chemotherapy could be assessed in 10 patients of whom 7 achieved complete or partial response. One patient achieved complete response by chemo- and radiation therapy alone. After an 8.8 years median follow-up (range, 3.9−16.4 y), 10 patients were survivors. Only one patient relapsed locally and at distant sites 9 months after the diagnosis, and died after few