In the 3 group 2 pts died 24 and 18 months after diagnosis from disease progression, 1 pt is in complete remission with 59 mnth of follow up.
Conclusions: TMZ did not result in a better outcome when compared with polychemotherapy in pts with newly diagnosed paediatric anaplastic astrocytoma. Although aggressive treatment seems to provide sustained remissions in some patients, the optimal management is still to be defined.

4118 POSTER

Prospective Randomized Trial of Hypofractionated Conformal Radiotherapy for Pediatric Diffuse Pontine Glioma

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Background: Children with diffuse pontine glioma has dismal outcome even with addition of chemotherapy, radiosensitized or using hyperfractionated radiotherapy.
Patients and Methods: Fifty four children, ages 3−15, were prospectively randomized either to receive: 1. Hypofractionated radiotherapy (Hypo) 39 Gy/13 fractions/2.5 weeks or, 2. Standard conventional 55.8 Gy/31 fractions/6 weeks. Patients' demographic and radiologic data were not significantly different in the two groups.
Results: Tolerance to radiotherapy was similar in the two groups. Time to symptoms and signs alleviation and the need to restart CNS dehydration were also not significantly different in both groups. The median survival were 7.3 months (95% CI: 3.5–10.7) and 9.5 months (7.9–11.2) for Hypo and conventional group respectively. Median time to progression was 6.4 months (2.0–10.8) and 7.3 months (5.8−8.5) for Hypo and conventional group respectively. The one-year overall (OS) was 35.8±10.8% and 26.9±10.1%, while the 2-year OS was 22.4±10.2% and 21.5±9.4% for hypo and conventional group, respectively. The one-year progression-free survival (PFS) rate was 22.7±9.9% and 21.4±9.0%, while the 2-year PFS was 11.1±9.1% and 21.4±9.0% for the hypo and conventional group, respectively. None of these differences was statistically significant.
Conclusion: Hypofractionated radiotherapy is as tolerable and effective as conventional fractionation with nearly similar OS and PFS rates. It has the advantage of being rapid with less burden on the patient, his family and on the treatment machines.

4119 POSTER

Hematopoietic Stem Cell Transplantation With Total Body Irradiation Conditioning in Childhood Acute Lymphoblastic Leukemia Patients With Relapsed or High Risk Group

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Background: This study retrospectively analyzed the patient characteristics and treatment outcomes of childhood acute lymphoblastic leukemia (ALL) patients treated with total body irradiation (TBI) conditioning followed by hematopoietic stem cell transplantation (HSCT).
Material and Methods: Between 1994 and 2008, 119 childhood ALL patients were treated with HSCT using TBI conditioning regimen. Patients were at high or very high risk group (73.1%) or relapsed after first complete remission by chemotherapy (51.3%). The dose of TBI was 200 cGy per fraction, twice a day up to 1200 cGy for 3 consecutive days. The type of HSCT was allogeneic (81.8%) or autologous (1.7%). The donors of allogeneic HSCT were human leukocyte antigen (HLA)-identical siblings (44.5%) or unrelated matched persons (35.3%). The cell source was bone marrow (66.4%), peripheral blood (16.8%) and cord blood (16%). Disease free survival (DFS) and overall survival (OS) were estimated by the Kaplan–Meier method, and late complications were assessed including the development of second malignancy.
Result: Patients were aged from 1 to 14 years (median 6). Median follow-up was 8 years (range, 2−14). Successful engraftment was achieved in 87.4% of patients. Acute and chronic GVHD developed in 68.9% and 21.8% of patients, respectively. Recurrence rate was 10.1% at bone marrow, 5% at central nervous system (CNS), and 5% at other extramedullary site. 5-year CNS relapse rate was 8.3%, and there was no significant benefit of prophylactic cranial irradiation (PCI) ($p = 0.789$). The 5-year DFS and OS rate were 77.2% and 53.9%, respectively. Age at diagnosis and the experience of an engraftment failure were significant prognostic factors for unfavorable DFS. Relapse after chemotherapy, umbilical cord blood stem cell source, unrelated matched donor, the presence of HLA mismatch and the experience of engraftment failure significantly decreased OS. Multivariate analyses showed that age at diagnosis and the experience of engraftment failure were significant predictors for OS ($p = 0.025$ and $p = 0.004$, respectively). Late complications were cataracts in 9 patients, endocrine disorders in 37 patients and bone related problems in 9 patients. No secondary malignancy was observed.
Conclusion: Our study showed that HSCT with TBI-based conditioning is a still good option for pediatric ALL patients who were at high risk group or experienced a relapse. The results achieved relatively high rate of engraftment and survival on long term follow up.

4120 POSTER

Low Bone Mineral Apparent Density in Childhood Survivors of Medulloblastoma

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Background: To detect the difference in bone mineral apparent density (BMAD) of the lumbar spine in childhood survivors of medulloblastoma (MB) and healthy peers.
Material and Methods: 47 childhood survivors of MB and 56 healthy peers were included in the study. Treatment protocol for MB included surgical treatment, chemotherapy and craniospinal irradiation. Bone mineral content (BMC, g) and bone mineral density (BMD, g/cm^2) of the L_1-L_4 spine region were measured with the densitometry device Lunar Prodigy GE. To minimize the effect of bone size on BMD value, we calculated BMAD for each lumbar vertebral body by dividing BMC per vertebrae volume. For analysis, arithmetical mean of the BMAD of the L_1-L_4 was used (BMAD L_1-L_4, g/cm^3). To detect the difference in BMAD L_1-L_4 in healthy and survivor's groups, regression analysis and estimation of the Fisher's criterion were used, with p value <0.05 considered significant.
Results: The mean (SD) follow-up at study was 4.8(2.2) years for boys and median (range) 4.6 (2.5−7.1) years for girls.

	Girls		Boys	
	Healthy, n = 22	Survivors, n = 20	Healthy, n = 34	Survivors, n = 27
Age at study, years	13.0 (5.0)	13.8 (4.5)	15.0 (6.0)	14.1 (6.0)
BMAD L_1-L_4, g/cm^3	0.415 (0.087)	0.398 (0.061)	0.392 (0.059)	0.357 (0.057)

Correlation coefficients (r) of the BMAD L_1-L_4 with chronological age were the following: healthy girls, r = 0.847; survivors girls, r = 0.325; healthy boys, r = 0.673; survivors boys, r = 0.458. There was a significant difference in BMAD L_1-L_4 both in the group of survivors girls and healthy girls (F = 6.294, p = 0.004) and in the group of survivors boys and healthy boys (F = 3.471, p = 0.04).
Conclusion: Obtained results denote that during long-term follow-up the decreased BMAD of the L_1-L_4 spine region is observed both in boys and girls survivors of medulloblastoma.

4121 POSTER

Carcinomas in Adolescents − Single Centre Experience

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According to U.S. SEER epidemiology data, the incidence of cancer is approximately 40% higher among patients aged 15−19 years than in younger children. Types of cancer in adolescents differ from the ones in children under 15 years of age, however epithelial tumours (carcinomas) are still very rare.
Between 2005–2009, 248 adolescents and young adults aged 15−19 years were treated at our department: 190 pts with solid tumour (1 tumour duplicity) and 58 pts with acute leukemia. Following diagnoses were documented: 20× NHL, 42× MH, 37× CNS tumour, 19× MMT, 22× bone sarcoma, 23× GCT, 12× other rare cancer, 47× ALL and 11× AML. In 16 pts, carcinoma (ca) was diagnosed: 3× thyroid ca, 2× ca of tongue, 2× nasopharyngeal ca, 1× hepatocellular ca, 1× adrenal cortical ca, 1× renal cell ca and 1× tubal ca. Carcinomas including thyroid cancer represent 8.3% of all solid tumours and 6.4% of all cancer in adolescents. In the same 5-year period, 8 pts in the age of 0−14 were treated for carcinoma at our department. Therefore epithelial cancer in adolescents represents 67% (16/24) of total carcinomas in our pts. Thyroid cancer was documented in only 1.2% (3/248) adolescents compared to SEER data presenting 8%