Materials and Methods: Data on the entire Norwegian married population aged 17−69 with children under the age of 20 in 1974–2001 (N = 1.04 million couples) was retrieved from the Cancer Registry, the Central Population Register, the Directorate of Taxes, and population censuses. Divorce rates for 4524 couples with a child with cancer were compared to those of otherwise similar couples by means of discrete-time hazard regression models.
Results: Cancer in a child was not associated with an increased risk of parental divorce overall, or for any of the more common cancer forms among children. A tendency towards an increased divorce risk (OR 1.34, CI 1.00−1.81) was observed for parents' of children with renal cancers (primarily Wilm's tumor). Neither age, time from diagnosis, nor prognosis influenced the estimates adversely. The death of a child with cancer did not influence the divorce rates significantly in either direction. Couples with mothers with an education above high school level did, however, display significantly increased divorce rates (OR 1.19, CI 1.05−1.36). The risk was particularly high shortly after diagnosis. Other risk factors for these couples were CNS cancer, age 5−9 years, and death of a child.
Conclusions: This large registry-based study has shown that contrary to existing myths, cancer in a child is not associated with an increase in parental divorce risk. An exception exists for couples with highly educated mothers. This may relate to these mothers' wish to work outside the home, which may be difficult given an increased care burden at home. Shared parental responsibility for children and thus a shared provision of care is more common among women with a high education versus a low education in Norway. Further studies are, however, clearly warranted to understand the background for the observed increase in divorce risk for these couples.

4105 ORAL

Is institution a prognostic factor in adolescent and young adult patients with osteosarcoma?b

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Background: Compared to paediatric cancer patients adolescents and young adults may have disadvantaged access to care. Therefore we investigated the correlation of patient, tumour and institutional characteristics with the outcome of osteosarcoma in this age group.
Material and Methods: Analysis of consecutive patients aged 15−24 years with newly diagnosed high-grade osteosarcoma entered into the Cooperative Osteosarcoma Study Group (COSS) registry 1980–2004 and treated in pediatric (PO) or medical oncology institutions (MO). Standardised multimodal therapy according to a COSS-protocol. Event-free survival rates (EFS) evaluated in relation to patient demographics and registering institution (MO vs PO and treatment volume as: $\leqslant$3 or >3 osteosarcoma/year).
Results: 944 patients identified (median age: 17.35 years; range: 15.01−24.99; 79% aged <20 years). Patients $\geqslant$20 years were more likely than younger patients to be treated in centers with low treatment volume ($p < 0.0001$) and MO ($p < 0.0001$) but otherwise comparable. After a median follow-up of 5.59 years (range: 0.12−27.92) for all patients and 8.08 years (range: 0.19−27.92) for 617 survivors, actuarial 5/10 year event-free survival probability (EFS) was 58%/54%. Upon univariate analysis of the total cohort neither of the institutional variables correlated significantly with EFS. There was a correlation between treatment in PO and improved EFS for patients $\geqslant$20 years ($p = 0.001$) and for those with primary metastases ($p = 0.009$). Upon multivariate testing type of center (odds ratio: 1.26; $p = 0.022$) but not treatment volume were significant.
Conclusions: Within a framework of standardised regimens and consultation support by our group's infrastructure, similar EFS-probabilites were obtained regardless of institutional treatment volumes. Observed variations in outcome between PO and MO may be partly due to different distributions of presenting factors but deserve further investigation.
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Poster presentations (Thu, 24 Sep, 09:00−12:00)
Paediatric oncology

4106 POSTER

Atypical Teratoid and Rhabdoid tumours in children: the French experience since 1998

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Background: To describe clinical features and therapeutic approaches and to identify prognostic factors in children with ATRT of the CNS.
Material and Methods: Observational study including all patients aged less than 18 years, diagnosed with CNS ATRT in France between January 1998 and July 2008, identified from hospital files and French Pediatric Cancer registry. Pathology review included histological and immunohistochemical analysis, including INI-1 staining. Impact of clinical characteristics (age, sex, site of primary tumor and metastatic status) on the overall survival (OS) was assessed using Cox models.
Results: seventy out of the 71 patients identified with ATRT over this 10-year period were included in the study (1 patient excluded due to incomplete clinical data). Median age was 2.8 years (range, 15 days – 12.8 years). Primary tumor site was supratentorial (ST) in 34, posterior fossa (PF) in 30, mixed (ST+PF) in 2 and medullar in 4 patients. The disease was disseminated at diagnosis in 22 patients. Five patients had non-CNS disease associated with CNS disease. Surgical resection was complete in 41 patients. Adjuvant therapy included chemotherapy in 55 cases and radiotherapy in 20 patients. Chemotherapy regimens were not standardized more than the study period: ATRT04, PNET High Risk and BB SFOP protocols were most frequently used. Median follow-up was 52 months (range, 13 months – 10 years). Disease progression or relapse occurred in 51 children. Median time to progression/relapse was 4.4 months. Median survival time was 9.9 months. One-year progression-free survival and OS were 21% and 42%, respectively. Metastatic status at diagnosis was the only prognostic factor (Hazard ratio for death: 2.1, 95%CI: 1.2−3.8, $p = 0.01$).
Conclusion: Children with ATRT of the CNS have a dismal prognosis. Innovative therapeutic are urgently needed.

4107 POSTER

Extended low-dose temozolomide induces severe lymphopenia in children with brain tumours: a phase II clinical trial

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Background: Standard schedule temozolomide (TMZ) with oral daily doses 200 mg/m^2 for 5 days every 4 weeks, has been utilized in children with progressive or relapsed brain tumours or with high grade glioma (HGG) at diagnosis. With this schedule manageable hematological toxicity and limited antitumor activity have been observed. Clinical and preclinical studies have shown that TMZ activity is highly schedule dependent. Extended TMZ dosing regimens may be more effective that standard regimens resulting in an higher cumulative dose over time.
Patients and Methods: We assessed the toxicity of a new extended low-dose schedule of TMZ in children with progressive or relapsed brain tumours or with HGG at diagnosis. Seventeen children were considered eligible for the study. Median age at diagnosis was 12.5 years (1 y-17 y). A total of 156 courses were administered, with a median number of 6 courses per patient (range: 2−22). TMZ was administered at 70 mg/m^2/day orally for 21 days every 28 days, as reported in adults studies. Heavily pre-treated patients started at a dose of 50 mg/m^2/day. Histological diagnosis showed 5 Ependymomas, 3 Low Grade Gliomas, 9 High Grade Gliomas.
Results: No toxic deaths or extra-haematological toxicity occurred. Grade IV and III lymphopenia occurred in 22.4% and 10.8% of courses, respectively. Grade III thrombocytopenia occurred in 0.6% of courses. Grade IV and III neutropenia occurred in 1.9% and 0.6% of courses, respectively. Among the patients showing lymphopenia, we observed 1 case of disseminated Zoster (meningoencephalitis and cutaneous involvement), 1 case of prolonged Rotavirus gastroenteritis, and 2 cases of herpetic stomatitis. The objective response rate was 11.8%. Overall, 82.3% of patients showed stable disease.
Conclusion: Our extended schedule was safe and well tolerated. No further cases of neutropenia or thrombocytopenia were observed despite the higher cumulative dose of the drug. Nevertheless, the prolonged