1229 ORAL

Adult neuroblastoma patients have inferior survival to pediatric patients and infants: SEER data

N. Esiashvili[1], M. Goodman[2], P.A.S. Johnstone1[1]. [1]*Emory University, Radiation Oncology, Atlanta, USA;* [2]*Emory University, Rollins School of Public Health, Atlanta, USA*

Purpose: Clinical data on survival outcomes of adult patients (defined as aged 20 years and older) with neuroblastoma are scarce due to the rarity of the disease. Small single institution reports have described worse outcomes for adults than pediatric patients.
Materials and methods: Data from the public-access Surveillance Epidemiology and End Results database were reviewed for the thirty-year period between 1973 and 2002 for the diagnosis of neuroblastoma. Using follow-up data through 2002, survival was examined within four different age groups: infants (12 months or less [n = 700]), young children (1–10 years [n = 1120]), older children (11–19 years [n = 90]), and adults (20 years and older [n = 125]). All results were expressed as three- and five-year observed survival.
Results: The observed three- and five-year survival rates were lowest among adult patients (45.9% and 36.3%). Patients between 1 and 9 years of age and patients 10–19 years of age had intermediate rates with corresponding three- and five-year observed survival rates of 52.9% and 47.8% for younger children, and 61.3% and 46.2% for older children and adolescents. Infants fared best, with 86.0% three-year and 84.6% five-year overall survival.
Conclusions: Adults with neuroblastoma have significantly worse outcome than children. This may be due to tumor biology, more virulent clinical course, or possibly by the fact that adults are less sensitive or have poor tolerance to pediatric chemotherapy regimens.
Supported in part by the Georgia Cancer Coalition, and NMCHD grant 5P60-MD000525.

Poster presentations (Mon, 31 Oct)
Paediatric oncology

1230 POSTER

Chemotherapy strategy for choroid or optic nerve involvment retinoblastoma

Z. Bekic[1], V. Svesko[1], L. Paripovic[1], J. Bokun[1], Z. Latkovic[2]. [1]*Institute for Oncology and Radiology of Serbia, Pediatric oncology department, Belgrade, Serbia;* [2]*Institute for eye disease in Serbia, Children department, Belgrade, Serbia*

Objective: The aim of the study was the evaluation of chemotherapy regimens based on carboplatin and possibilities for avoiding conventional radiotherapy in patients with bilateral retinoblastoma.
Material and methods: From 1998 to 2004 we treated 22 patients with high risk retinoblastoma (RB), median age 24 months (range 2 months to 7 years), 13 male and 9 female. All patients had tumor invasion into the optic nerve or choroid – 14 unilateral RB (group I), and 8 bilateral RB (group II). There was no leptomeningeal or bone dissemination.
Enucleation of one eye was performed in all patients. Local radiotherapy, range 40 Gy, was applied in all patients in group I and in two patients in group II. In group II, 3 pts had focal treatments (cryotherapy, thermotherapy) combined with chemotherapy. Chemotherapy regimen – Vincristine 1.5 mg/m^2/day 1, Etoposide 150 mg/m^2 days 1 and 2, Carboplatin 560 mg/m^2/day 1 was administered to group I and JET regimen Carboplatin 1000 mg/m^2/day 1 and Etoposide 300 mg /m^2/day 1 in group II.
Results: During the 10 to 71 months follow-up period (Me = 32 months) overall survival (OS) rate was 79.7%. OS was 85.7% in unilateral and 67.9% in bilateral group. Toxic side effects were acceptable, slightly higher in the bilateral group.
Conclusion: Application of chemotherapy regimens based on carboplatin in patients with high risk retinoblastoma is effective. Increased carboplatin dose with or without local ophtalmic treatment could enable avoiding conventional radiotherapy on the other eye in patients with bilateral retinoblastoma.

1231 POSTER

TP73 expression in medulloblastoma

K. Zitterbart[1], J. Kadlecova[2], I. Zavrelova[3], J. Sterba[1]. [1]*University Hospital Brno, Department of Paediatric Oncology, Brno, Czech Republic;* [2]*University Hospital Brno, Department of Medical Genetics, Brno, Czech Republic;* [3]*University Hospital Brno, Department of Pathology, Brno, Czech Republic*

TP73 gives rise to two diametrically opposed protein classes: transactivation–competent p73 proteins (TAp73) and transactivation-deficient NH2-terminaly truncated p73 proteins (ΔTAp73 i.e. ΔNp73, p73ex2, p73ex2/3). TAp73 possesses a putative tumor suppressor activity similar to p53, whereas ΔTAp73 forms act as dominant negative inhibitors of p53 and full-length p73 proteins. Oncogenic activity of ΔTAp73 has been shown and frequent tumor specific up-regulation of ΔTAp73 forms was observed in some cancer, including breast and hepatocellular carcinoma. ΔNp73 overexpression was found to be an independent prognostic marker for aggressive clinical behaviour in patients with neuroblastoma. ΔNp73 is also involved in neural morphogenesis; it is an essential survival protein in central as well in peripheral neurons.
In this study, we hypothesized that p73 might also be involved in medulloblastoma carcinogenesis. Tumor tissue samples from consecutive (n = 18) patients treated according to consistent protocols were obtained at neurosurgery and stored in liquid nitrogen until processing. The diagnosis of medulloblastoma was confirmed by central pathologic review. Isoform-specific (TAp73, ÄNp73, p73ex2/3) real-time reverse transcription-PCR quantification of transcripts was performed. We also examined the expression at the protein level by means of immunohistochemical staging with anti-p73 antibody at corresponding paraffin-embedded samples. Normal human cerebellum tissue was used as a negative control.
Based on observed up-regulation of TP73 transcripts in some tumors, we suggest the involvement of TP73 in medulloblastoma carcinogenesis. Correlations regarding TP73 and relevant clinical data will be presented, however to draw a conclusion about the TAp73 vs. ΔTAp73 interplay pattern and its prognostic significance in medulloblastoma, more samples are need to be analyzed.

1232 POSTER

P53 expression does not predict chemotherapy response in paediatric patients with osteosarcoma

V. Quintero[1], I. Colmenero[2], L. Madero[1], A. Muñoz-Villa[3], M. Calvo[4], I. Gonzalez-Mediero[2]. [1]*Hospital Niño Jesús, Servicio de Oncología Infantil, Madrid, Spain;* [2]*Hospital Niño Jesús, Servicio de Anatomía Patológica, Madrid, Spain;* [3]*Hospital Ramon y Cajal, Servicio de Oncologia Infantil, Madrid, Spain;* [4]*Hospital Ramon y Cajal, Servicio de Anatomía Patológica, Madrid, Spain*

Background: High grade Osteosarcoma (OS) is the most frequent primary bone tumor in patients under 20 years. It is highly malignant tumor and without treatment a lethal disease. Current treatment for OS comprises orthopedical radical surgery and systemic intensive chemotherapy. Prognosis for osteosarcoma depends on clinical facts (site, size and metastasis) and the most conclusive tool to predict prognosis for patients with localized limb disease is the response to neoadjuvant chemotherapy of the primary tumor. P53 gene is a tumor suppressor gene that participates in cell cycle regulation and apoptosis. Its mutations have been related to resistance to chemotherapy and radiotherapy. P53 missense mutations can be indirectly assessed by immunohistochemical expression of p53 protein. We design a study to determine whether p53 expression predicts an inadequate chemotherapy response and poor prognosis for paediatric patients with OS.
Patients and methods: 36 consecutive patients under 20 years with high grade OS were studied. All were treated according to consecutive treatment protocols designed by the Sociedad Española de Oncología Pediatrica (SEOP). Neoadjuvant chemotherapy based on cisplatin, ifosfamide, high dose methotrexate and anthracycline was administered in all cases. p53 expression was assessed in samples from diagnosis and the tumor response was estimated after a 14 weeks neoadjuvant chemotherapy at the primary tumor resection.
Results: The mean age was 11 years old. Event free survival (EFS) was 61.9%±8.8% with median follow up of 27 months and Overall Survival (S) was 60.8%±8.5% median follow up 48 month. 4 patients had metastasis at diagnosis. 21 of 34 patients had good response to chemotherapy (tumor necrosis >90%). 19% of the patients were p53 positive at diagnosis. P53 expression was not related with poor response to chemotherapy and did not have any influence on prognosis. The most significant prognostic factors were metastasis at diagnosis (HR 8.41, p = 0.02) and chemotherapy response (HR 5.61, p = 0.02).