(80%), nausea/vomiting (78%) and ataxia (64%). Subtotal tumor excision was performed in 34 patients and biopsy was performed in only 5 patients. Histopathologically, each case was reviewed. The patients' tumors were classified as either microcystic or diffuse. Twenty-seven of the 39 patients (69.2%) had microcystic tumor; the remaining 12 (30.8%) had diffuse tumor. Of the 27 cystic tumors, 25 (92.6%) were subtotally excised. This compares to 9 (75%) of the 12 diffuse tumors amenable subtotally excised. According to Kernohan Grading, 32 patients were grade III and 7 patients were grade IIIIV. Low grade tumors were irradiated with a local field (1.82/4450 Gy) and children with high-grade tumors received a total brain irradiation (1.82/4045 Gy) followed by a boost irradiation 10 Gy, using a Cobalt-60 Unit. Follow up ranged from 6 to 121 months (median 49.9 months).

Results: Two, 5 and 10 year overall survival rates were 94%. Two, 5 and 10 year disease free survivals were 79.2% respectively. Of 34 patients whose tumors were subtotally removed, 7 (20.6%) recurred and 5 patients were performed biopsy and 3 (60%) recurred, with a mean follow-up of 3.8 years ($p = 0.023$). No correlation with survival could be determined for the gross appearance of rumor diffuse (90%) or cystic (100%) ($p = 0.15$).

Conclusion: Although there is no question that total surgical excision is the treatment of cerebellar astrocytomas, controversy arises as to the management of subtotally excised tumors. The issue of whether postoperative irradiation is beneficial.

407 POSTER

Mutations of RB-1 gene in children with leukemia and neuroblastoma

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Rb-1 is a tumor suppressor gene located in the 13q14 chromosome region and comprises of 27 exons. The RB-1 gene, code for a 110 KD product, which is a nuclear phosphoprotein acting as a cell cycle regulator and blocks the transition of normal cells from G0/G1 into the S phase of the cycle and it is normally expressed in hematopoietic cells. It is inactivated by deletions but more often by mutations. Point mutations may affect most of the exons, but have a certain predominance for exons 2024 and for their splicing sites. In hematopoetic malignancies, deletions or rearrangements of the RB-1 gene have been reported in 5 to 10% of acute leukemias, in adults. The aim of our study was to correlate the prevalence of RB-1 gene mutations with leukemia and neuroblastoma occurring in children. We studied archival bone marrow slides, dating from 1992 to 1996, from 26 children with leukemia (18 Acute Lyphocytic Leukemia, ALL and 8 Acute Myeloid Leukemia, AML) and 4 children with neuroblastoma. Exons 20, 21 and 22 were amplified using the PCR technique, resulting in products of 350 bp, 518 bp and 363 bp respectively. SSCP and heterodoublex analysis were performed to detect mutations. Due to its size, exon 21 was digested with NdeI restriction enzyme, resulting in 180 and 338 bp products. In exon 20, two samples of ALLs (11.11%), in exon 21, one of ALLs samples seemed mutated (5.56%) and in exon 22, four samples of ALLs (22.22%), had altered conformation. None of the AMLs or the neuroblastomas seemed to have mutations. Further analysis with sequencing is going to determine the actual percentage of mutations in all three exons. These data suggest that RB-1 gene could probably correlate with the etiology of acute lymphocytic leukemia and possibly used as a prognostic factor for the cause of the disease.

408 POSTER

Ochrobactrum anthropi bacteremia in children with central venous catheters

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Ochrobactrum anthropi is a gram-negative bacillus that has been isolated with increasing frequency last decade and associated with permanent central venous catheter-related bacteremias. Until 1993 only 15 cases of human infection due to O. Anthropi had been reported in the literature while during the period 1991–96, 9 cases of septicemia in 3 patients were identified in our department. The aim of this study was the estimation of frequency of O. Anthropi bacteremia in immunocompromised children with central venous catheters the last 2 years. During the period 1997July 1998 at our department, Ochrobactrum anthropi was isolated in 29 positive blood cultures (from Hickman and/or peripheral venous) of 9 children with malignant diseases (2 ALL, 3 solid tumors and 4 other hematological diseases). Seven of these children had central venous catheter (Hickman) and the positive blood cultures obtained from the catheter and peripheral venous as well. Although the efficacy of antibacterial chemotherapy in O. Anthropi infections is not defined in previous reports, in our cases the bacillus was resistant in vitro to b-lactam antibiotics and susceptible to imipenem, ciprofloxacine, amikacin and trimethoprim/sulfamethoxazole. According susceptibility tests the administration of imipenem or ciprofloxacine was efficacious treatment for 7 children while in two cases it failed to eradicate the organism and bacteremia relapsed after discontinuation of treatment which led to central venous catheter removal. These results indicate that the last years the incidence of O. Anthropi catheter-associated bacteremia increases and it is important to recognize it as causative agent and propose strategies for more effective control because it appears unpredictable multiple antibiotic resistance to many agents commonly employed in the empirical treatment of gram negative infections.

409 PUBLICATION

Changes of thyroid gland after combined treatment for Hodgkin's disease in children

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Purpose: To evaluate incidence and ways of treatment of thyroid gland's (TG) changes after therapy of Hodgkin's disease (HD) in children.

Methods: 36 patients were examined 113 years (31 of them 3 years) after chemotherapy and radiation therapy (total closes to the neck – 2546 Gy) for HD in childhood. The examination included measurement of levels of thyroid hormones, sonography of the TG and cytological or hystological examination of TG's nodular lesions.

Results: Impaired TG function was detected in 8 patients (22.2%): in 7 – hypothyreosis, in 1 – diffuse toxic goiter. In all patients with hypothyreosis and in 14 with normal TG function (total – 21 patients, 58.3%) hypoplasy of TG was detected with sonography. In 3 patients (8.3%) nodular lesions of TG were found (cytology: no signs of malignancy). In 1 patient papillary cancer of TG developed 11 years after neck irradiation, 45 Gy. L-thyroxin was used in cases of hypothyreosis with good effect. Thyroidectomy was performed for diffuse toxic goiter and TG cancer with subsequent therapy with L-thyroxin. In cases of benign nodular lesions follow up tactics was adopted.

Conclusion: The incidence of TG changes after treatment of HD in children is high. New approaches to treatment of HD are necessary so that to minimize those changes.

410 PUBLICATION

Metastatic brain involvement in children with Ewing's sarcoma

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Purpose: According to literature, brain metastasis (BM) is very rare in children with Ewing's sarcoma (ES). The aim of this study is to show the frequency of BM in patients with ES, as well as its dependency on the location of a primary lesion.

Methods: The review of 16 children (10 boys and 6 girls) with ES from 1993 until 1999 was completed. The ages of the children ranged from 3 to 17 years (median age: 11). 8 patients had 15 metastasis of different location, where brain metastatic involvement occurred in 33% of all metastasis. All BM were identified by imaging modality, 3 were histologicaly proven. At the time BM was diagnosed all patients had some CNS symptoms: headache (n = 3), headache and hemiparesis (n = 2).

Results:

Site of primary lesion	No. of patients	Metastatic involvement				
		brain	spine	lung	bone marrow	rib
Central: Pelvis	6	4	3	1	1	1
Rib	1	–	–	–	–	1
Peripheral: Femur	4	–	1	–	–	–
Humerus	1	–	–	–	–	–
Tibia	2	1	–	1	–	–
Fibula	2	–	–	1	–	–