(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	–	–

BM more often occur in cases of central, especially pelvic location of primary lesions (in 4 children of 6) than in cases of peripherally located primary tumor, but this difference is not statistically significant (chi = 2.01 p = 0.18).

Conclusion: It is our opinion medical professionals must be more aware of the possibility of BM in patients with ES (especially in central ES cases) and should conduct the appropriate diagnostic procedures to exclude it.

411 PUBLICATION

About distribution of primary children's brain tumors in Kazakstan

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The study of cancer etiology has shown that ecological trouble, radiation and other factors play a significant role in tumor development of some localization, and first of all, central nervous system. The main purpose of this study was revealing regularities of frequency and distribution of brain tumors in children of Kazakstan (KZ).

During period 1980–1987 on the average 46 children with newly registered diagnosis of brain tumor are revealed annually in KZ. Brain tumors make 10–12% from common pediatric malignancy. Intencive index is 0.9 per 100 000 of children. Territorial distribution of this pathology is irregular. High brain tumor incidence is characteristic for Northeast regions – large industrial centers (East and North Kazakstan, Pavlodar, Karaganda. Minimal rates of incidence were recorded in regions where the agriculture predominates.

Study of pediatric morbidity among various ethnic groups established that ratio of Kazaks and Russians was approximatelly identical.

Thus, the certain regularity in frequency of distribution of primary children's brain tumors in KZ is established. Brain cancer incidence is maximal in industrial developed regions and contiguous to Semipalatinsk nuclear range, and minimal in regions of traditional agrarian direction.

412 PUBLICATION

Retinoblastoma in Kazakstan between 1956–1990

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Purpose: To evaluate potential effect of different factors on retinoblastoma (RBL) incidence.

Methods: Archives of ophthalmological centers of Kazakstan were analyzed. Principal means of the study were epidemiological (descriptive and correlational) methods. The indirect standardization was applied. The differences were evaluated for statistical significance. The level of disease incidence in Kazakstan as published in official reports was taken as a standard.

Results: 363 cases of RBL were registered between 1956–1990 (200 boys and 163 girls). Intensive index was 0.22 + 0.03 per 100 000 of children. For analyzing the disease dynamics during the period 1956–1990 we devided it to shorter periods of five years. Between 1986–1990 intensive index increased 3 times comparing to 1956–1960 and standard – 2.6 times. Incidence among boys and girls was approximately equal. For the period under study RBL dominated among children born in rural areas (in cities 2.89 + 0.62 or 1:34000, in rural areas – 3.69 + 0.63 or 1:26000). But this statistically is not trustworthy. All data taking into account the activity of the sun. Correlation between sun's activity and increase of RBL incidence was established.

Conclusion: Frequency of RBL among children in Kazakstan was analyzed between 1956–1990. This analysis revealed positive correlation between sun's activity and RBL incidence. We should wait the sharp increase of tumor rate in the year of maximum sun's activity.

413 PUBLICATION

Arthroplasty of the knee after resection of a sarcoma in children

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Purpose: The results of osteoplasty of the distal femur and proximal tibia in sarcomas were evaluated.

Methods: 41 patients (21 males and 20 females) aged from 4.5–16 years (mean age 10.64 years) were operated on. There were 34 osteogenic sarcomas, 2 giant cell malignant tumors, 1 chondrosarcoma, 1 fibrosarcoma, 1 reticulosarcoma and 1 Ewing's sarcoma. 29 tumors were situated in the distal femur and 11 ones were situated in the proximal tibia. In 35 cases, boiled down autografts and in 6 cases, allografts were used. 31 patients received polychemotherapy and 10 of them underwent radiation therapy.

Results: 8 patients with osteogenic sarcoma died of lung metastases. In 4 patients, limb amputation was done. Seven patients had graft fractures with subsequent union after conservative therapy and in one case after surgery. The remaining patients show good anatomic, functional and oncologic results.

Conclusion: Osteoplasty plus polychemotherapy for sarcomas was found to be optimal in children.

414 PUBLICATION

3 cases of viral encephalitis in pediatric oncohematologic department in patients at the end of chemotherapy treatment

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Purpose: Infectious complications caused by opportunist microorganisms during intensive chemotherapy remain great problem because of high mortality level. Analysis of their frequency and pts outcome helps in developing adequate supportive management

Materials: 3 patients with oncologic diseases under different phases of chemotherapy (1^{st} with ALL during intensification; 2^{nd} with RMS during the last chemotherapy cycle; 3^{rd} with neuroblastoma on the 1^{st} maintenance CT-cycle) with age of 6 y 6 m, 1 y 8 m and 5 y correspondingly. NMR-imaging procedure was informative in 2 from 3 cases (1^{st} – with diffuse picture and 3^{rd} one – with nodular involvement). Serologic investigations were successful in 1 from 3 cases, but all pts had Herpes Zoster and/or Herpes Symplex clinical manifestations just before or during course of encephalitis.

Results: Therapy by i.v. Acyclovir in dose 500 mg/m^2 × 3/day was used in all three cases, but was effective in 2 pts (1^{st} and 3^{rd}) with fast regression of encephalitic symptoms (convulsions, somnolence, headache, hypothermia). Autopsy in 2^{nd} case revealed diffuse necrotic changes of brain.

Conclusion: Early using of high dose Acyclovir is useful for any case of encephalitic clinical picture in patient under long immunosuppressive therapy.

415 PUBLICATION

Acute lymphoblastic leukemia: Therapy results in one Pediatric Oncohaematologic Center in Ukraine

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Purpose: Introducing of modern treatment strategy for children and adolescents with acute lymphoblaslic leukemia was necessary for improvement the final results of their therapy and giving them chance for surviving.

Methods: Modern Protocol based on BFM-ALL-Strategy was used from January, 94 in Pediatric Oncohaematologic Department in Kiev Regional Oncologic Dispensary for 54 patients with ALL (34 boys and 20 girls), median age of group was 6 y 5 m (range 8 m – 18 y 3 m). Original BFM-Protocol was adopted to the conditions of the country (using of 1 g/m^2 MTX in M-phase instead of 5 g/m^2).

Results: pEFS of this group of patients for 61 month was 0.81 (SD = O.07) with pS = 0.82 (SD = 0.07). Treatment failures: NR-1, ED-2, Death in Rem. – 4, Rel – 3; 2 patients were LFU; 44 were in CCR on 01.01.99.

Conclusions: Dramatic improvement of general therapy results was shown for children with ALL after introducing of modern therapy strategy. Additional consequence of this process was adequate training of staff and achieving experience for further development.

416 PUBLICATION

Cefepim and ceftazidime in combination with amikacin in febrile neutropenia of childhood: Which regimen is more effective?

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The efficacy of amikacin (800 mg/m^2/day IV 1 × 1) in combination with either cefepim (150 mg/kg/day IV tid) or ceftazidime (4500 mg/m^2/day IV tid) in treating childhood febrile neutropenia was studied in 90 patients