losing survival benefit. In poor prognosis group the aim is to obtain the highest remission rate at the lowest side effects of therapy.

528 ORAL

RESULTS OF HM91 PROTOCOL OF THE FRENCH PEDIATRIC ONCOLOGY SOCIETY (SFOP) FOR CHILDREN WITH LARGE CELL ANAPLASIC LYMPHOMA

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On behalf of the SFOP

Between February 1991 and September 1994, 43 patients newly diagnosed with a large cell anaplastic lymphoma (LCAL) were enrolled in the HM91 study. After a cytoreductive phase COP course (Vincristine-Cyclophosphamide-Prednisone) were administered 2 induction courses (COPADM) with methotrexate, cyclophosphamide, adriamycine, vincristine and prednisone. Maintenance treatment consisted of 8 alternate courses of VEBBP (vinblastine, VPI6, bleomycine and prednisone) and séquence 1 (vincristine, methotrexate, cyclophosphamide, adriamycine and prednisone. Total length of the treatment was 7 months. There were 21 boys and 22 girls aged 3 to 16.5 years (median age 10 years). Immunohistochemistry data are available for 41 pts with positivity for Berh2 in 41/41, for EMA in 32/36. Cytogenetic analysis was performed in 19 cases and revealed a t (2; 5) in 14 cases. Lymphadenopathies were present in 42/43 patients, skin lesions in 34, visceral involvement in 22 and bone marrow involvement in 4. No patient had CNS involvement at diagnosis; 26 patients had B symptoms. Initial chemotherapy resulted in a complete remission in 39/43 patients. 2 patients failed to achieve CR and died, 2 patients achieved CR with the second line treatment and are alive disease free with 36 and 42 months follow up. 8 patients relapsed 7 to 12 months after diagnosis (3 of them died, 5 are alive with no evidence of disease), 33 patients are in first complete remission (including the 2 patients in CR only after the second line treatment) with a median follow-up of 20 months. Event free survival is 72% and crude survival 84% with a median follow up of 20 months.

529 ORAL

COMBINED POSTOPERATIVE RADIO-CHEMOTHERAPY OF MALIGNANT BRAIN TUMOURS IN CHILDHOOD: RESULTS OF THE PILOT STUDY HIT '88/89

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Objective: Improvement of survival with postoperative additional chemotherapy before radiation therapy in medulloblastoma, ependymoma and glioma.

Materials: Chemotherapeutic agents: Procarbazine, Ifosfamide/VP16, MTX, Cis-Platinum, ARAC.

Patients; Eligible patients: n = 147, Follow-up: 6 years, mean 4 years.

Results: Medulloblastoma (n = 94): 26/39 patients with residual tumour or meningeal dissemination responded to chemotherapy (CR/PR). In complete response the 5-year eventfree survival was 54% (±15%), in poor/non-responder 23% (± 9%) ($P = 0.02$). However, for all patients with residual tumour or meningeal spread the 5 year eventfree survival was 32% (± 7%), without residual tumour 58% (± 8%)($P = 0.004$).

Ependymoma (n = 21): 5 year eventfree survival with residual tumour: 30%, without residual tumour: 53%

Glioma (n = 22): 5 year eventfree survival WHO Gr III: 57%, WHO Gr IV: 0%

Conclusions: In medulloblastoma additional chemotherapy improved the survival for patients with residual disease who responded to chemotherapy. However, for the total group of patients with or without residual disease the survival was equal to postoperative radiation therapy only (i.e. SIOP II). Due to a low number of patients it is difficult to draw conclusions from our data on survival in ependymoma and glioma. At present, however, there is no firm evidence for an improvement of the therapeutic outcome.

530 ORAL

CLINICAL ASPECTS AND SURGICAL TREATMENT OF POST-CHERNOBYL CHILDREN'S AND ADOLESCENT'S THYROID CANCER

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The cases of children's and adolescent's thyroid cancer treated in the Surgical Clinic of the Institute of Endocrinology and Metabolism during the period from 1980 to 1994 were reviewed retrospectively. 199 patients with thyroid cancer were operated on. The analysis has shown a substantial increase in thyroid cancer incidence among children in Ukraine after the Chernobyl accident (1990 to 1994) which differs by its clinical characteristics and a high level of aggression. Most of the thyroid cancers were well-differentiated papillary forms. The method to be used for treatment is total thyroidectomy with radical excision of cervical lymph collectors followed by ablation of thyroid remnants with ^{131}I, if necessary, and life-long suppressive therapy with thyroid hormones.

531 ORAL

RESULTS FOLLOWING RADIOTHERAPY AND/OR CHEMOTHERAPY OF ORBITAL RHABDOMYOSARCOMA

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The results of treatment of previously untreated patients younger than 17 years with primary localized rhabdomyosarcoma of the orbit were analyzed. In a multicenter study 46 patients with stage I–III orbital RMS were treated with chemotherapy (CT) (VACA: 1981–1985 or VAIA: 1986–1990)after initial tumour excision or biopsy. Patients with primary unresectable tumours were stratified after preoperative CT according to the result of second look surgery or degree of tumour volume reduction either to receive radiotherapy (RT) with 40 or 50 Gy using conventional fractionation, or 32 or 54.4 Gy (1.6 Gy/fraction BID). Sixteen patients were not irradiated, whereas 30 had RT. Forty patients were eligible for analysis. Local recurrence occurred in 0/1 stage I, 2/5 stage IIA, and 2/7 stage III patients without RT. The numbers in stage I to III after RT were: 1/1, 1/3 and 4/23, resp. Five year disease free survival (DFS) is 78% in the first study and 74% in the subsequent study. There is no significant difference in local control and DFS in patients treated with conventional or accelerated fractionation. The study demonstrates good local control with acceptable toxicity using either conventional or accelerated fractionation.

532 POSTER

MALE FERTILITY FOLLOWING CHEMOTHERAPY IN CHILDHOOD

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205 patients treated by chemotherapy in the Institut Gustave-Roussy for childhood cancer between 1963 and 1990 have been assessed for fertility by serum basal FSH-LH level (200 pts), sperm count (22) and/or testicular biopsy (4) after the end of puberty and 1 to 21 years (m: 8 y) after the end of chemotherapy. They received various polychemotherapy including cyclophosphamide (129 pts), procarbazine (42 pts), CCNU (37 pts), D actinomycin (80 pts), doxorubicin (138 pts), methotrexate (69 pts), vincristine (182 pts). 127 pts (62%) had normal, and 78 abnormal results.

A multivariate analysis showed that pubertus status of the children at time of the treatment had no influence, but that cyclophosphamide, procarbazine and CCNU were significantly associated to abnormal results. 32 pts treated only with D-actinomycin, vincristine + adriamycine had normal results.

533 POSTER

INFECTION WITH HEPATITIS B, C, AND HIV IN CHILDREN WITH CANCER IN TURKEY

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Turkey is considered to be an area of endemic hepatitis B virus (HBV) infection. Prevalence of HBV infection in the pediatric age group is 9.8%. Pediatric cancer patients are at an increased risk for hepatitis

B, C and HTV infection because of repeated blood transfusions and immunosuppressive chemotherapy. Serological markers for hepatitis B, C and HIV were studied in 102 newly diagnosed pediatric oncology patients at the beginning of therapy between July 1993–December 1994. The age ranged between 7 months and 17 years with a mean of 10 years. 24 patients had Hodgkin's disease, 15 had Ewing's sarcoma, 11 had non-Hodgkin's lymphoma, 10 had osteosarcoma, 8 had Wilms' tumor, 7 had rhabdomyosarcoma, 6 had neuroblastoma, 4 had soft tissue sarcoma, 3 had germ cell tumour, 3 had primitive neuroectodermal tumour, 3 had brain tumour, 2 had hepatoblastoma, 2 had nasopharynx carcinoma, 1 had Langerhans cell histiocytosis, 1 had optic glioma, 1 had tyroid carcinoma and 1 had unclassified tumour. Four patients (4%) had contact with HBV, 15 (14%) developed immunity against HBV and had anti HBs antibodies. One patient had a previous infection with positive anti HBc. Hepatitis C virus (HCV) antibodies were positive in only 1 patient (0.9%). HIV serology was negative in all patients. These results show high prevalence of HBV infection in pediatric oncology patients. In HBV endemic countries, strict HBV screening of blood donors, usage of disposable equipment and vaccination of patients is recommended.

534 POSTER

INTERNATIONAL REGISTER OF CURRENT PROTOCOLS IN CHILDHOOD ACUTE LYMPHOBLASTIC LEUKAEMIA (A.L.L.)

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Many clinical trial groups around the world are performing randomised studies to advance the treatment of childhood acute lymphoblastic leukaemia. Clinicians who wish to find out about the protocols in use may have difficulty, as they have to examine many different reference sources and will miss relevant trials. The treatment regimens are often very complex and even when different trials address the same therapeutic questions, each may have a different approach to administering the therapy under study or may have radically different forms of background therapy. In December 1992, representatives from most of the research groups who conduct randomised trials into the treatment of childhood A.L.L. met and recognised that a regularly updated register of current randomised protocols would be of value in identifying the work of each trial group and allowing comparison between their therapeutic strategies. The first edition of this register is now ready and provides a reliable and readily accessible collection of all identified randomised trials in current use for childhood A.L.L. Each protocol is summarised in a simple clear manner, which emphasizes the randomised comparisons under study. Summary tables show which trials are addressing specific questions and allow easy comparison between both their experimental regimens and their background therapies. The register will be updated regularly and the second edition will be available in Autumn 1995.

535 POSTER

CHILDHOOD- AND JUVENILE THYROID CARCINOMAS

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The authors report on the late prognosis and biological properties of thyroid carcinomas in 36 patients, developed before the age of 20. All patients underwent surgical treatment and were followed up from 1962 to 1994. Papillary carcinoma was diagnosed in 30, follicular carcinoma in 4, and medullary carcinoma in 2 patients. In 11 cases cervical lymph node excision or cytologic examination was performed before the operation, that verified the diagnosis. 24 of the 36 patients had T-2 tumors at the time of the operation. Lymph node metastasis was found in 21, lung metastasis was found in only one patient. Total thyroidectomy was performed in 18, subtotal thyroidectomy in 9 and lobectomy with isthmus resection in 9 patients. Thyroiditis accompanying the carcinonoma was diagnosed in 3 patients. Regional lymph node recurrence occurred in 8 cases. One patient was lost only, due to local recurrence. All of the patients were given thyroid hormone replacement. 20 patients became pregnant after the treatment, and 25 infants were born.

536 POSTER

TOTAL THYROIDECTOMY IN THE TREATMENT OF THYROID CARCINOMA IN CHILDHOOD

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The extent of surgical resection for thyroid cancer in children up to the age of 16 years is controversial with a morbidity varying between 15 and 90%.

Between 1974 and 1993 we routinely performed total thyroidectomy in 16 consecutive patients, ten girls and six boys (6–16 years) with a therapeutic selective neck dissection in six patients. All patients were treated with ^{131}J postoperatively. The results and morbidity were evaluated. Papillary carcinoma was present in 10, follicular carcinoma in 2 and medullary lesions were seen in 4 patients. Extrathyroidal extension was observed in 4 of the 12 patients. Nodal metastases were found at level II–IV[1] in 6 patients and at level V in 2. With an average of 11.5 (2–20) years, all patients were followed regularly with serum thyroglobulin (Tg) and ^{131}J total body scanning when indicated. Only one patient has a slight elevation of Tg levels without any evidence of disease at screening. All patients are alive with no demonstrable recurrences.

Only one patient had a long-lasting hypocalcaemia (>1 year). Recurrent nerves at risk were not injured accidentally, but due to tumour invasion 2 of the 32 nerves at risk had to be sacrificed.

These findings indicate that this surgical approach is safe and well tolerated in pediatric patients.

Robbins KTh, *et al.* Standardizing neck dissection terminology. *Arch Otolaryngol Head Neck Surg* 1991; **117**:601.

537 POSTER

GROWTH IMPAIRMENT IN CHILDREN SUBJECTED TO CRANIAL IRRADIATION

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Growth was assessed retrospectively in 11 children (age range 2–14 years) diagnosed having brain tumors who underwent treatment with chemotherapy, surgery and cranial irradiation with a mean total dosage of 50 Gy. In these patients GH was the first hormone to have a decreased production. The average time from the radiotherapy to the significant decrease in growth rate was 17 months (range 6–27) and to the GH deficiency (<10 ng/ml) was 23.6 months (range 14–64).

Hormonal replacement therapy with rh-GH at dose of 0.6 UI/kg/week given by daily induced a significant increase the average height in SD after 6 months of treatment. These results suggest that GH replacement at 18 months after radiotherapy should be considered in the treatment of these patients.

538 POSTER

OPTIMUM CARE FOR THE ORAL MUCOSA IN CHILDREN AND ADOLESCENTS UNDER CHEMOTHERAPY

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Three different programs for protection of the oral mucosa were examined in 30 children and adolescents undergoing cytostatic therapy. The programs consisted of (a) a liquid of 0.1% Hexeditin + a soluble combination of an extract of rhubarb, salicylic acid and ethanol, (b) a liquid of 0.1% chlorhexidine digluconate and sugar-free chewing gum, and (c) a liquid of amino fluoride/tin fluoride and sugarfree chewing gum. All three programs seemed to protect the oral mucosa equally well. The programs also protected the teeth from increased plaque coverage in 69–90% of all examinations. However, there were striking differences in the acceptance of the three programs. Those containing sugarfree chewing gum were preferred by 83% of the examined children, frequently because of the good taste and the easy way of application. A reason for some patients to decline a program was the painful biting taste that liquids sometimes had on irritable or ulcerative districts of the mucosa. Good compliance is important and essential for protecting the oral mucosa of an immunocompromised child. Different forms of oral disinfection work well, but their acceptance depends on their taste and painless application. The combination of a mild disinfective solution and sugar-free chewing gum is recommended.