

45.

SEVERE BACTERIAL INFECTIONS IN CHILDREN WITH SECONDARY IMMUNODEFICIENCY SYNDROME AFTER THE USE OF CYTOSTATIC THERAPY. G. Bunjevački, J. Simonović, G. Konjović, E. Stojimirović. Children's University Hospital, 11000 Belgrade, Tiršova 10, Yugoslavia.

18 children with malignant hemopathy developed severe immunodeficiency syndrome causing septic infections in 10. Staphylococci and pyocyanea were the most frequent cause, while conditionally pathogenic flora was revealed in 2 patients. Mouth necrosis complicated treatment of the basic illness in 6 patients and presented entrance for the septic infection in 3 children. Ulceration and gangrene of the perianal region with predominance of gram negative bacterial flora were confirmed in 5 children of whom 1 had also ulceronecrotic lesions in the mouth. Purulent meningitis developed in 1 child. In all these children humoral and cellular immunity were investigated. Quantitative determination of the serum immunoglobulins revealed marked decrease in IgG, IgA and IgM during and after the use of the cytostatic therapy. Examination of the cellular immunity by the response of the peripheral blood lymphocytes to phytohemagglutinine stimulation disclosed a decrease of the stimulation index to H_2 thymidine in all patients. Selective testing of immunologic functions confirmed acquired immunodeficiency. The high incidence of severe bacterial infections coexisted with acquired immunosuppressive effect of the polichemotherapy. The follow-up of immunologic features enabled rational application of the cytostatics and urgent treatment of the pyrogenic complications in patients with malignant diseases.

46.

DEVELOPMENT OF INTENSIVE CARE (IC) SCORING SYSTEM IN PEDIATRIC ONCOLOGY PATIENTS (POP) L.P. Miller, D.R. Miller, E.J. Beattie J. Koegel. Memorial Sloan-Kettering Cancer Center, NY, NY USA

No rational system exists for classifying POP by complexity of illness. To develop such a system we asked: Is there a useful scoring system of therapeutic interventions (TI); is there a score predictive of IC needs; is early IC intervention of measurable benefit; can resources be allocated better by classifying POP; does early IC prevent certain problems; are TI decreased in terminal care POP; can standards of care be established based on TI? We used a modified Therapeutic Intervention Scoring System (TISS). Points were allocated for each TI. Additions were made for specific needs of POP. 149 POP (108 medical, 41 surgical) were scored. Findings were: TISS of 15 representing five 3 point TI predicted a need for specialized monitoring and IC. Instituting early IC based on TISS suggested a decrease in number of invasive procedures, shorter duration of IC, and less morbidity. Phase of illness predicted degree of care required (experimental chemotherapy (EC) > induction > bone marrow transplant > reinduction > remission). Leukemia POP required more care than solid tumor POP at all phases of illness. 35 POP with fever/neutropenia had TISS of 3-4 requiring little care. Poor nutrition and renal/electrolyte problems secondary to sepsis, amphotericin, antibiotics, EC and fluid overload were common and were reversible with early intervention. Resistant *Serratia* (13) and *Klebsiella* (2) caused most sepsis-induced morbidity requiring moxalactam, amikacin, and cohorting and isolation of POP and families. Terminal care POP received few TI. In conclusion we quantified and documented the clinical impression that POP on induction or EC require more care. Commonest TI were identified and standards of care developed. Defining a TISS predictive of the need for either IC or minimal care allows better utilization of resources, earlier intervention, and may decrease morbidity in patients.

47.

JEJUNAL DISACCHARIDASE DEFICIENCIES DURING TREATMENT OF WILMS' TUMORS, ACUTE LEUKEMIAS AND NON HODGKIN'S LYMPHOMAS: INCIDENCE, NUTRITIONAL CONSEQUENCES. D. Olive, A. Morali, J.L. Vuillemin, E. Benz-Lemoine, P. Bordignon, F. Thirion, M. Vidailhet, Services de Pédiatrie -CHU-NANCY-FRANCE

The purpose of our prospective study was to assess the effects of antimitotic drugs on jejunal disaccharidase activities (J.D.A) to precise the degree of malabsorption, its duration and the necessity of a special nutritive support.

85 peroral jejunal biopsies were performed in 60 chil-

dren (age : 3 months to 18 yrs) ; disaccharidase activities were measured using Dahlquist's method and classified into 5 groups according to the severity of enzymatic decrease ; groups III-V were considered as abnormal.

1) **WILMS' TUMORS** : 19 children, 30 biopsies (2 before any treatment, 23 on therapy, 5 off therapy). All JDA were decreased (mainly lactase) in 8/23 biopsies on therapy.

2) **ACUTE LEUKEMIAS** : 28 children, 34 biopsies performed during induction of remission. JDA were decreased in 15/32 biopsies on therapy, mainly after Arac, L-Asp. and Amsacrine.

3) **NON HODGKIN'S LYMPHOMAS** : 10 children ; 21 biopsies performed during initial 6 months. JDA were decreased in 14/21 particularly enhanced by high dose MTX, ADR, Ara C and repetitive courses.

Our sequential study of JDA allows to foresee the timing, the severity and the duration of malabsorption and digestive troubles which are identically induced by the same combined drugs. According to these data, a better nutritive care may be proposed as follows : -suppression of aggressive proteins and lactose from the diet ; -constant rate enteral feeding ; -prophylactic total parenteral nutrition in case of severe malnutrition and high-risk chemotherapy. Owing to this attitude, correction of digestive troubles was observed and a good nutritional status was maintained in our whole patients.

48.

THE APPLICATION OF HOME PARENTERAL NUTRITION IN PEDIATRIC CANCER PATIENTS. A.R. Ablin, M.D., M.B. Heyman, M.D., M.P.H., M. Hanson, R.N., A. Wong, Pharm.D. University of California San Francisco, San Francisco, California, United States.

Home parenteral nutrition (HPN) through centrally placed venous catheters is feasible and available for selected pediatric cancer patients. After proper placement of a right atrial silastic catheter, the patient in the hospital is advanced to an appropriate parenteral nutrition (PN) infusion to provide needed total or supplemental nutrition. The infusion time is gradually shortened so the patient receives the total regimen over a 10-14 hour period at night. The rate of PN infusion is tapered during the last 30-60 minutes to avoid reactive hypoglycemia. The patient is discharged from hospital when stabilized and after training and testing on the use of aseptic techniques, the volumetric infusion pump, catheter care and self-monitoring. All equipment required for infusing PN solutions and catheter care is provided. Pre-mixed solutions are supplied in the home in 2-4 week quantities. Each patient or family maintains daily records of intake, output, weight, urine glucose and medications. Patients are evaluated weekly initially and, after the first month, at longer intervals. Emergency calls are received by a trained clinical nurse specialist, clinical pharmacist specialist, and/or physician involved. The objectives of an HPN program are: 1.) to prevent malnutrition by provision of total or supplemental nutrition 2.) to improve tolerance to usual treatment programs and to permit the development of more aggressive surgery, chemo- and radiotherapy schedules 3.) to return patients and families to more normal life style, activity and mental attitude by decreasing dependence on medical personnel, decreasing in-hospital days and improving self-appearances 4.) to treat malnutrition. Preliminary results with two pediatric patients on HPN program are presented.

49.

SIDE-EFFECTS ON JEJUNAL DISACCHARIDASE ACTIVITIES (JDA) OF CHEMOTHERAPY (CT) IN NON-HODGKIN'S LYMPHOMAS (NHL) : NUTRITIONAL MANAGEMENT. E. Benz-Lemoine, A. Morali, J.L. Vuillemin, J. Léger, M. Vidailhet, D. Olive - Services de Pédiatrie - Laboratoire de Chimie - CHU-NANCY -FRANCE

The aggressiveness of some schedules, recently introduced in NHL treatment, led us to study the comparative incidence of JDA disturbances in 3 regimes, trying to prevent digestive troubles and malnutrition.

21 peroral jejunal biopsies were performed in 10 children. Primary site of NHL : cervical (5), abdominal (3), mediastinal (1), subcutaneous (1). Stages (MURPHY) : II (3), III (4), IV (3). 3 types of regimens were used according to prognostic factors. Disaccharidase activities were measured by Dahlquist's method.

JDA were decreased (mainly lactose) in 14 out of 21 biopsies and correlated with major digestive troubles, except in patients under special nutritive care. Predisposing fac-