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CESSATION OF THERAPY IN CHILDHOOD LEUKEMIA. A SURVEY OF 155 CASES FROM THE NORDIC COUNTRIES.

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A report will be given on 155 children from the five Nordic countries who had their antileukemic therapy discontinued prior to November 1976. Twenty-seven (17 %) of the cases had suffered a relapse before May 1977. Sixty-seven had their therapy stopped in the first ten months of 1976. Thirty-three first line patients treated for more than 3 years, without cessation of therapy, are also included in the report, seventeen of whom relapsed while still on therapy.

All cases have been reported as acute lymphocytic leukemia. Different types of therapy have been used.

Central nervous system or testicular relapse occurred in 21 of the total 44 cases who relapsed after three years or more of continuous remission, and whether they were on therapy or not.

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HIGH DOSE METHOTREXATE (HDM) IN ACUTE LYMPHOCYTIC LEUKEMIA IN CHILDHOOD.

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A clinical trial with HDM as consolidation therapy in ALL was started in June 1975. Ten departments of pediatrics treating almost all cases of childhood leukemia in Norway are now participating. Three courses of HDM, 500 mg/sq.m. at 3-weekly intervals, have been used in 59 children with ALL and one with AML. One child in incomplete remission died following HDM and there were nine other cases of marked or severe reactions, following a total of 154 courses in 60 patients including 5 cases of allergic-toxic skin reactions.

Thirty-eight of forty patients in primary complete remission have been in sustained remission for 3-22 months, only two of the 40 cases have so far relapsed.

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HUMAN B CELL DIFFERENTIATION IN VITRO. KINETICS OF THE RESPONSE TO POKEWEED MITOGEN (PWM)

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Human peripheral blood lymphocytes (10^6/ml) from 5 healthy young adults were cultured for 10 days in serum-supplemented RPMI 1640 and stimulated with PWM. Data recording at daily intervals revealed the following kinetic pattern: a) thymidine incorporation rate reached a maximum (50-100x10^3 cpm) between days 5 and 7; b) highest percentage of plasmablasts (25-42%) was observed on day 7 whereas the number of plasmablasts per culture usually peaked 24 hrs earlier (82-150x10^3); c) peak rate of IgM release in the supernatant (380-2800 ng/ml/24 hrs) was attained after 6-7 days, whereas the concentration of IgM in the supernatant obviously increased throughout the culture period reaching values of about 1200-8000 ng/ml ; d) PFC against SRBC haptenated with FITC peaked on day 7 (144-500/10^6 cells). A close regular correlation was observed between PFC generation and rate of IgM release despite wide variations in magnitude and kinetics of individual responses. No correlation was found between percentage and absolute number of plasmablasts. In vitro studies of B cell differentiation in immunodeficiencies should be expected to give valid information only if the above cited parameters are taken into account following a kinetic approach.

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Split chimerism in severe combined immunodeficiency.

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Split chimerism is a rare phenomen which can occur after bone marrow transplantation. In these cases only some of the hemopoetic cells are derived from the donor. We report about two cases of split chimerism in patients with severe combined immunodeficiency. In both cases only the lymphocytes were engrafted successfully. Whereas the first child received marrow from his HLA-non- but MLC-identical mother, the split chimerism in the second child developed spontaneously - probably during delivery. In both cases immunoneutropenia developed and the first child finally died from aplastic anemia. In the second child the split chimerism could be replaced by full chimerism with the help of bone marrow transplantation.

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SICKLE-CELL ANEMIA IN TURKEY(EVALUATION OF 97 CASES WITH PARENTS' FINDINGS)

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The hematological and clinical data in 97 sickle-cell anemia cases and hematological findings of their parents are reported. In spite of the low Hb values of the patients, they tolerated their anemia and very rarely required blood transfusions. The Hb F levels of the patients were in general higher than African origin SS anemia patients but lower than the Shiite Saudi Arabians. However, in most of the cases its concentration did not seem to influence the Hb concentration of the patients. Serum iron was found to be decreased in 22 % of the patients which was unexpected. Osmotic fragility was found to be decreased in 100 % of the patients and 83.5 % of the parents.

The prevalence of G-6-PD deficiency was also high in patients (21.2 %) and in the parents.

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SPLENIC FUNCTIONS IN NON NEGRO PATIENTS WITH SICKLE-CELL ANEMIA AND HB-S-THALASSEMIA

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Platelet and F-VIII reservoir and phagocytic function of the spleen have been studied in 7 patients with Hb-S-thalassemia and 13 acute cases of Hb SS disease. 8 splenectomized patients and 11 healthy children served, as controls. F-VIII elevation following adrenalin was found to be a sensitive index in the evaluation of "functional hypersplenism" which was shown in 42.8 and 77 % of the patients with Hb-S-β -thalassemia and Hb SS disease respectively. The high platelet count was observed in patients with sickle-cell anemia and Hb-S-β -thalassemia without palpable spleen. The independence of the splenic functions of these patient were emphasized.