

PHAGOCYTOSIS AND CANDIDACIDAL ABILITY OF THE LEUCOCYTES IN THE NEWBORN; EFFECT OF EXCHANGE TRANSFUSION.

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The phagocytosis and killing capacity of candida albicans by the newborn's leucocytes were studied in order to investigate the increased incidence of monilia infection during the first days of life. They were both found to be deficient. The effect of exchange transfusion was also examined by studying the phagocytosis, candidacidal capacity and the C3 component of the complement in the serum before, at the end and 72 hours following as well as in the donors blood. It was found that: 1) following ET phagocytosis tends to drop returning to the pretransfusion levels at 72 hours. 2) The exchange transfusion did not have any influence on the candidacidal activity of the leucocytes nor on the concentration of C3 component of the complement.

IMMUNOLOGICAL INCOMPETENCE IN CARTILAGE-HAIR HYPOPLASIA. E. Savilahti, M. Virolainen, I. Kaitila, and J. Perheentupa. Children's Hospital and 3rd Dept. of Pathology, University of Helsinki, Finland.

We have studied the immunological capacity of 23 patients suffering from short-limbed growth failure due to metaphyseal chondrodysplasia associated with normal skull and vertebral column. Most of the patients had hypoplastic hair, but this feature was variable even between affected siblings. Many had recurrent or prolonged infections. Humoral immunity was unaffected as indicated by normal serum immunoglobulin levels, normal number of immunoglobulin containing cells in the intestinal mucosa, normal secretion of immunoglobulin on mucosal surfaces and normal production of antibodies against viruses. Skin reactivity to tuberculin was depressed. The blast transformation of lymphocytes on stimulation with phytohaemagglutinin was below 95% confidence limit of controls in all but one patient. This patient had normal hair. The in vitro response to tuberculin was also absent or slight. However, the percentage of lymphocytes forming non-immune rosettes with sheep red cells was only slightly decreased. This test is considered to quantify the T-lymphocytes. The discrepancy between these findings can be explained by functional deficiency of T-lymphocytes. Otherwise, the tests may measure dif. functions of "

THE CLEARANCE OF COMPLEMENT COMPONENTS IN CHRONIC MEMBRANOPROLIFERATIVE GLOMERULONEPHRITIS.

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In chronic membranoproliferative glomerulonephritis (CMPGN) the activation of the complement system through the C3-bypass mechanism plays an important role. The clearance of the complement components and of the C3-proactivator (C3-PA) have been determined in 22 patients. Haemolytically active C5, C6, C7, C8, C9 and C3-PA could be detected in the urine for the first time. The clearances of the complement components do not correlate with the clearances of other serum proteins with similar molecular weights and may reflect the immunologic process in the kidney. To determine the selectivity of a proteinuria the quotient clearance C8/clearance C9 is as reliable as the quotient clearance IgG/clearance transferrin, as introduced by Cameron and Blandford. The specificity of the single complement components in the urine were tested by specific complement inhibitors such as hydrazine, KSCN, Antrypol, EDTA and the C4-inactivating factor.

MECHANISMS INVOLVED IN HYPOCOMPLEMENTEMIA IN HB HEPATITIS OF CHILDREN. C. Le Prevost, J. M. Dupuy and D. Frommel. Lab. Immunol. U 56, INSERM, hôp. Bicêtre 94270 & C.N.T.S. 75015 Paris.

Depressed complement & complement component levels are frequently observed in patients with HB hepatitis associated with prodromal symptoms of arthralgia, arthritis or urticarial skin rash. In these cases, hypocomplementemia may be related to low synthesis or consumption by pathogenetic complexes. To better understand the mechanisms involved, we studied C & C components in various types of childhood liver diseases: epidemic hepatitis, HB positive hepatitis, chronic active hepatitis, fulminant hepatitis of toxic or viral origin, Wilson's disease & cirrhosis associated with α 1 antitrypsin deficiency. Total C, C components & C1q, C1 INH & immune adherence were measured. The C profile was found unremarkable in most patients with epidemic hepatitis. Reduced C component levels, especially C3, was found in patients with chronic active hepatitis. In HB+fulminant hepatitis, C components were extremely low: total hemolytic activity was severely depressed; C1, C4, C2, C3 were two standard deviations below the normal. C3 mediated immune adherence was markedly reduced. These findings suggest that immune complexes may be involved in the pathogenesis of this disease. Results will be discussed. (sup. INSERM ATP 5).

IN VITRO LYMPHOCYTE STUDIES IN HYDATID DISEASE. A. Izzet Berkel, DEPT. of Pediatrics, Institute of Child Health, Hacettepe Univ., Ankara, Turkey

Diagnosis of hydatid disease becomes a clinical problem because of cross reactivity of the serological and delayed hypersensitivity tests among echinococci and tapeworms such as tenia and hymenolepis nana. In this study in vitro lymphocyte response to the echinococcus antigen (cyst fluid) in patients with hydatid disease, teniasis and hymenolepiasis is investigated in tissue cultures by measuring the incorporation of tritiated thymidine (H_3 Tdr) into DNA. Lymphocytes from the patients with hydatid disease showed increased H_3 Tdr uptake to echinococcus antigen. Also a cross reaction with teniasis and hymenolepiasis is detected in some patients by increased thymidine uptake on the lymphocytes from these patients after stimulation by the echinococcus antigen.

LOCAL IMMUNOGLOBULIN PRODUCTION IN CHILDREN WITH LOW SERUM IgA. Pirkko Pelkonen, E. Savilahti and P. Kuitunen. Children's Hospital, Univ. of Helsinki, Finland.

Local immunoglobulin production was evaluated in 11 children with borderline low serum IgA concentration (3-22 mg/100 ml) by studying immunoglobulin-containing cells in jejunal and rectal mucosa and by measuring immunoglobulins in intestinal juice and saliva. Most patients had increased susceptibility to infections.

The total amount of immunoglobulin producing cells was normal. The IgA-IgM cell ratio was reversed in 6 cases, viz. in both the jejunal and rectal mucosa in one, and in one or the other in 5 patients. This reversed cell ratio was usually associated with the lowest serum IgA levels, below 6 mg/100 ml. IgA was detected in all secretions studied except for the jejunal juice of one patient. We conclude, that some of the children with borderline low serum IgA concentration do have definitive functional impairment of the mucosal IgA system. This is indicated by relative increase in the IgM-cell population in the mucosal surfaces.