ABSTRACTS

Meeting of The American Pediatric Society and The Society for Pediatric Research

Atlantic City, New Jersey, May 2, 1970

SPECIAL SESSIONS

- 1 *Anti-DNA Antibodies and Virus-like Structures in the Renal Disease of Systemic Lupus Erythematosus.* THEODORE PINCUS and JOSEPH A. BELLANTI, NIH, Bethesda, Md., and Georgetown Univ. Sch. of Med., Washington, DC.

Four patients, two males and two females, ages 12-16 years, with systemic lupus erythematosus (SLE) were found to have active renal disease. All had reduced serum complement (C') and high levels of antibodies to DNA, as measured by the radioactive DNA ammonium-sulfate precipitation method. With improvement in clinical condition and renal function, all four patients showed a significant rise in serum C' levels and reduction in antibodies to DNA. In three cases these changes occurred with the institution of corticosteroid therapy and in the fourth while this therapy was tapered. A renal biopsy from the most-recently-studied patient who had not received prior corticosteroid or immunosuppressive therapy was examined by electron microscopy. Myxovirus-like structures, similar to those described recently in SLE, were observed in capillary endothelial cells. These studies corroborate evidence for the possible role of immune complexes involving nucleic acids in the pathogenesis of SLE nephritis, and support the possibility for the presence of a viral agent in untreated disease.

- 2 *Clinical Correlates of Serum IgE in Asthmatic Children.* LATA KUMAR, RICHARD W. NEWCOMB, KIMISHIGE ISHIZAKA and ELLIOTT MIDDLETON, Jr., Children's Asthma Res. Inst. and Hosp., Denver, Colo. (introduced by David Pearlman).

Serum IgE levels were measured by radioimmunoassay in 116 asthmatic patients aged 6-16 years, and were compared to their clinical profiles. The IgE level was ≤ 700 ng/ml (normal) in 86 children and > 700 ng/ml (high) in 30. The incidence of positive skin tests was directly related to high IgE levels ($p < 0.01$). Of 94 children without eczema, 76 had normal values, whereas 12 of 22 children with eczema had high IgE concentrations ($p < 0.01$). Of 57 children receiving systemic corticosteroid therapy, only 5 had high IgE levels in comparison with 25 of 59 patients not on steroids ($p < 0.001$). History, skin sensitivity and bronchial challenge to allergens enabled us to classify 79

children into an 'extrinsic' or 'mixed' group (65) or an 'intrinsic' group (14). Of the 'extrinsic' or 'mixed' group, high IgE levels were found in 24, of whom only 3 were receiving steroids, whereas 21 of the 41 with normal IgE levels were on steroids ($p < 0.01$). All 14 'intrinsic' had normal levels; 10 of these were on steroids. No significant correlations were found with several other measured clinical attributes. Repeated measurements of serum IgE concentrations revealed consistent values over a 4-month period in most children, however significant variation occurred in some.

These data indicate a direct relationship of IgE level to incidence of positive skin tests and presence of eczema, but a reciprocal relationship to systemic corticosteroid therapy, even in so-called 'extrinsic' or 'mixed' asthma. (Supported by USPHS grants AI-08500, FR 5523 and a Hartford Foundation grant.)

- 3 *Ataxia-telangiectasia and Autoimmunity.* ARTHUR J. AMMANN and RICHARD HONG, Univ. of Wisconsin Med. Center, Dept. of Pediatrics, Madison, Wisc.

The ataxia-telangiectasia (A-T) syndrome consists of multiple abnormalities of the neurologic, vascular, endocrinologic and immunologic systems. Any postulate regarding the pathogenesis of the clinical syndrome must explain the multiple system involvement and account for the progressively more widespread and severe involvement with time. Some of the features of this syndrome might be explained if an autoimmune process were operative.

17 patients with A-T, ages 4 to 39 years, were studied for laboratory evidence of autoimmune phenomenon. The following investigations were performed: rheumatoid factor, anti-IgA antibodies, anti-deoxy-nucleoprotein antibodies, anti-thyroglobulin antibodies and fluorescent antibodies directed against the stomach, muscle, adrenal, pituitary, ovary, testis and thymus. 12 of 17 patients demonstrated 1 or more of the above antibodies. One patient was positive for rheumatoid factor, 6 patients without serum IgA had anti-IgA antibodies, 2 had antithyroid antibodies and 2 had anti-muscle antibodies. Especially striking was the finding of anti-IgA antibodies in 3 patients with