GLOMERULAR DISORDERS

109 MESANGIAL IgA NEPHROPATHY IN HLA-IDENTICAL SIBLINGS WITH SIMILAR BLOOD TYPES

Few reports have been made on intrafamilial cases of IgA nephropathy. Recently, a study was carried out on two siblings with the similar HLA and blood types. Patient 1 (brother) developed gross hematuria and proteinuria at age 7. Patient 2 (sister) developed microscopic hematuria at the same age.

Neither patient exhibited nerve deafness nor occular defects; renal function was also normal. Microscopic hematuria was observed in three other siblings of the father.

Renal biopsies were performed and subsequent electron microscopic observation revealed evidence of widespread paramesangial electron-dense deposits.

Immunofluorescence showed these deposits to be IgA. IgG, C_3 and Fibrin-Fibrinogen were also detected in glomeruli in both patients.

Serotyping revealed identical HLA, A and B locus, which were HLA-A11, BW48/A11, BW48, respectively.

Blood type was also identical except for Lewis. ABO, Rh, MNS, and P were A_1, CcDEe, MsNs, P_2, respectively, in both patients.

These findings are of paticular interest in view of the association of IgA nephropathy with genetically controlled, immune response.

110 CLINICOPATHOLOGICAL CORRELATIONS IN FAMILIAL HAEMATURIA (FH)

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The findings are reported in 38 patients with FH. Those with neurosensory deafness, heavy proteinuria or chronic renal failure in the patient and/or family generally had a progressive clinical course. Their biopsies showed segmental glomerular sclerosis usually with interstitial foam cells; on electron microscopy (EM) there was usually fibrillary replication of the lamina densa with a 'basket weave' pattern. These adverse features were more pronounced when there was deafness in the patient or family, although families without deafness are considered to fall within the spectrum of Alport's syndrome. In contrast, patients from families showing neither deafness, heavy proteinuria nor chronic renal failure ran a non-progressive course (FH). Their biopsies showed little or no glomerular changes other than attenuation of the lamina densa on EM.

Deafness, heavy proteinuria, segmental sclerosis and foam cells were not often present before the age of 10 years in children with Alport's syndrome, whereas the 'basket weave' pattern of the lamina densa was found in all three children biopsied under 5 years old. We therefore emphasize the importance of EM in the differential diagnosis from benign FH.

111 CLINICAL PATHOLOGICAL CORRELATIONS IN RECURRENT AND PERSISTENT HEMATURIA SYNDROMES (RPHS). A report from the International Study of Kidney Disease in Children.

We report on 75 children satisfying the following criteria: (1) hematuria: 3 or more RBCs/mm^3 or trace or more hemastix; (2) recurrent: 2 or more episodes within six months - negative intervening specimens; (3) persistent: consistent positives over 6 months; (4) no family history of nephritis. The following immunological sub-groups were identified: I: Mesangial IgA (12); II: Mesangial IgM (10); III: Vascular C3 (27); IV: Peripheral (epimembranous) IgG (3); V: Mesangial IgG (2); VI: Essentially negative (21). Elevated Cr (>2SD) was found in I 1/12; II 0/10; III 4/27; IV 0/3; V 0/2; VI 4/21. Elevated diastolic BP was noted in I: 1/12 and elevated systolic BP in I: 2/12 and III: 1/27. No significant difference in the pattern of hematuria was noted with respect to gross vs microscopic or intermittent vs persistent. Three patients in group IV had typical epimembranous deposits with microscopic hematuria, only 1/3 had proteinuria. Mesangial hypercellularity was seen in all groups. Focal global or segmental glomerulosclerosis was seen in I 10/12; II 3/10; III 12/27; IV 1/3; V 1/2; VI 7/21. Tubular atrophy was seen in I 9/12; II 2/10; III 8/27; IV 0/3; V 0/2; VI 5/21. Serum Ig s revealed only increased mean IgA levels in group I.

RPHS are associated with several immunopathological patterns. These include mesangial Ig deposits (I,II,IV), vascular C3 (III), epimembranous IgG (IV) and negative (VI). Elevated serum creatinine, glomerulosclerosis, or tubular atrophy was more commonly seen in groups I, III and VI.

112 BERGERS DISEASE - HENOCH SCHONLEIN NEPHRITIS WITHOUT THE RASH

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There are similarities in the clinical and renal manifestations of Bergers disease (mesangial IgA disease) and Henoch-Schonlein nephritis. The diagnosis of Henoch-Schonlein syndrome is made only when the purpuric rash is seen. It can be suggested that some cases of Bergers disease are Henoch-Schonlein syndrome without the rash. The following family illness suggests that this is so.

Identical 7 yr old twin boys each had a proven adenovirus infection at the same time. A few days later one developed florid Henoch-Schonlein purpura, severe alimentary symptoms and transient joint symptoms. He had an acute nephritic syndrome which progressed to nephrotic syndrome and renal insufficiency. Biopsy showed severe proliferative glomerulonephritis with crescents and marked deposition of IgA, IgG, C_3 and fibrin. The twin presented with haematuria and abdominal pain but no rash. The bouts of haematuria recurred but gradually subsided to merely microscopic haematuria. His biopsy showed mesangial proliferative glomerulonephritis with mesangial deposits of IgA and to a less extent IgG and C_3. The appearance was characteristic of Bergers disease.

Immunological studies have not revealed why these two identical twins responded to the same provocation in different ways. Their illness suggests that Bergers disease may be considered a variety of Henoch-Schonlein nephritis (without the rash).

113 IgA NEPHROPATHY IN CHILDREN: A MODIFIED VIEW OF CLINICO-PATHOLOGICAL CHARACTERISTICS.

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The present study was carried out to determine clinical and immunopathological features of IgA nephropathy in children.

Of 224 children who underwent renal biopsy between 1975 & 1979 and on whom the specimens were studied by immunofluorescence, 35 cases (male 22, female 13, ages 4 to 17 years) of IgA nephropathy were detected. Their clinical, immunological and histological characteristics were compared to that of 71 cases of IgA nephropathy found in 311 biopsied specimens of adult patients. All the specimens were analysed by a routine light microscopy and immunofluorescent study for immunoglobulins, β1C, β1E, properdin and fibrinogen. In order to estimate mesangial cell proliferation, matricial increase, mesangial deposition, and tubulo-interstitial changes quantitatively, each specimen was analysed on our scoring system. Results are summerized as follows.

1) Clinical manifestations: 23 (65.7%) were presented by chance proteinuria and/or hematuria, and 7 (20%) by macroscopic hematuria. During the course of illness, 5 (14.3%) developed nephrotic syndrome and 15 (42.5%) macroscopic hematuria. They were followed over a mean period of 52.1 months: 9 improved, 28 unchanged, and 1 deteriorated. It may suggest better prognosis in pediatric patients despite a higher incidence of heavy proteinuria and nephrotic syndrome.

2) Serum IgA levels: Serum IgA levels were elevated in 7 of 26 children above 10 years of age but remained within normal range in all of 9 children below 10 years.

3) Immunopathological study: In comparison with adult cases, mesangial cell proliferation was more prominent in majority of the 35 cases, but increase in mesangial matrix and deposits, and tubulo-interstitial changes were milder. Mesangial immunofluorescence was unequivocally demonstrated in all of the 35 children, being composed of IgA $\bar{s}$ β1C in 4, IgA $\bar{c}$ β1C in 12, and complex immunogloblins $\bar{c}$ β1C in 19. In the adult patients, however, β1C was stainable in the mesangium in all but one of the 71 cases.

The present data suggests that IgA nephropathy in children differs distinctively from that of adults in clinical, immunological, and pathological manifestations.

114 FAMILIAL C1Q DEFICIENCY WITH GLOMERULONEPHRITIS AND CUTANEOUS DISEASE IN THREE SIBLINGS.

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A C1q deficiency with cutaneous and renal disease was found in three siblings. Two brothers and a sister aged 12, 11 and 9 years old, with clinical features resembling those of Rothmund-Thomson Syndrome were studied because of episodes of gross hematuria in two patients and microscopic in the other.

Renal function and cryoglobulins were normal, serum IgM was elevated and RF was positive in all three. ANA were only detected in two patients. Serologic studies showed a total lack of CH50 hemolytic activity, undetectable C1q and restoration of the defect when purified human C1q was added to the assay. Mesangial Proliferative Glomerulonephritis with diffuse glomerular deposits of IgM and C3 was seen by renal biopsy and cutaneous hystological studies were those of Rothmund-Thomson Syndrome in all three patients. No clinical and serologic abnormalities were found in the mother and in the remainder three other siblings. The father presented ANA at a low tittle and a serum C1q decreased to a 50% of its normal value. 106 members of the family tested against any cutaneous or renal clinical symptoms were normal.

A familial incidence of three not previously reported combined diseases has been found. Serologic data and the renal affectation highly suggest a SLE-like connective tissue disease, in which the congenital lack of C1q seems to be the predominant factor.