IgA Nephropathy and Henoch-Schönlein Syndrome Occurring in the Same Patient

A.	Angelo	Ravelli ^a
G.	Gabriella	Carnevale-Maffe ^b
N.	Nicolino	Ruperto ^a
E.	Edoardo	Ascari ^b
A.	Alberto	Martini ^a

^aClinica Pediatrica e ^bClinica Medica II, Università di Pavia, IRCCS S. Matteo, Pavia, Italia

Alberto Martini, MD, Clinica Pediatrica dell'Università, IRCCS S. Matteo, P.le Golgi, 2, I-27100 Pavia, (Italy)

Dear Sir, The question as to whether Henoch-Schönlein syndrome (HSS) and IgA nephropathy (IgAN) are different clinical manifestations of the same basic disease or if, on the contrary, they are separate entities is yet unanswered. Since the two diseases share epidemiologic, clinical, immunologic, and pathologic features, several investigators have postulated that they are pathogenetically related, with HSS representing a systemic form of IgAN [1, 2]. The HSS, however, is distinguished by extrarenal clinical manifestations and the course and prognosis of the two diseases are different. We report a 10-year-old boy who presented initially with biopsy-proven IgAN and 11 years later developed classic HSS.

G.T. was admitted to our department 1 day after the onset of painless gross hematuria following a respiratory infection. One month before, microscopic hematuria had been discovered by chance during a routine laboratory investigation. The boy was otherwise well with no history of skin, joint, or gastrointestinal complaints. There was no family history of renal disease or deafness. Physical examination on admission showed decreased breath sound on the right lung basis; abdominal, cardiac, joint and skin findings were normal. The blood pressure was 85/40 mm Hg. Relevant investigations revealed normal complete blood cell count and hemoglobin, raised erythrocyte sedimentation rate (80 mm/h), renal insufficiency [blood urea nitrogen 95.7 mmol/l (134 mg/dl), creatinine 168 µmol/l (1.9 mg/dl), glomerular filtration rate 77 ml/min/1.73 m²), and an elevated serum IgA level (410 mg/dl with a normal range of 44-208 mg/dl); antistreptolysin O titer and serum complement levels were normal; antinuclear and anti-DNA antibodies were absent; urinalysis showed hematuria and proteinuria (1.8 g/24 h). A chest X-ray revealed a right basal bronchopneumonia. A renal biopsy showed a focal segmental proliferative glomerulonephritis. Mesangial granular deposits of IgA and C3 were identified by immunofluorescence. During hospitalization, the boy received parenteral ampicillin and gentamycin for 10 days. The macrohematuria disappeared within 3 days. Serum urea and creatinine concentrations returned to normal by day 15, at which time the child had only microscopic hematuria.

During follow-up the boy remained well with normal blood pressure, persistent microhematuria, and absence of proteinuria. He had several episodes of upper respiratory infection, which were accompanied by gross hematuria on two occasions. Serum IgA levels remained elevated. At the

age of 21, without obvious precipitating factors, he developed pain and swelling of wrists and lower limb joints, central abdominal pain with vomiting, and a florid purpuric skin rash affecting both legs and buttocks. The blood pressure and the renal function tests were normal. Serum IgA levels were elevated at 515 mg/dl (normal range: 59-311 mg/dl).

Urinalysis showed microhematuria and proteinuria (1.5 g/24 h). A skin biopsy revealed a leukocytoclastic vasculitis with granular deposition of IgA around the papillary vessels. The boy was treated with analgesic drugs and, because of persistent abdominal complaints, with a short course of corticosteroids. He had several bouts of the purpuric rash and recovered within 1 month. At the last follow-up, 1 year later, the patient was well and normotensive and had normal renal function and persistent isolated microscopic hematuria.

A large body of clinical and experimental data supports the view that IgAN and HSS are variants of the same disease process [1]. Both diseases are frequently preceded by upper respiratory infections, and are associated with elevated serum IgA levels and increased IgA-bearing lymphocytes. Although patients with IgAN have no rash, IgA deposits in dermal vessels of unaffected skin have been detected. Renal biopsy findings are very similar with granular electron-dense deposits containing IgA in the mesangium. Weiss et al. [3] observed the development of IgAN in the transplanted kidney of patients who had suffered from HSS nephritis with renal failure.

There are data suggesting a common genetic background for IgAN and HSS [4]. Familial studies have shown the occurrence of both diseases in different members of the same family. Meadow and Scott [2] reported two identical twin brothers of whom in re-

KARGER

E-Mail karger@karger.ch Fax +41 61 306 12 34

© 1996 S.Karger AG, Basel 0028-2766/96/0721-0111\$8.00/0

sponse to the same viral infection one developed severe HSS nephritis progressing to chronic renal insufficiency and the other IgAN with recurrent hematuria. The frequency of homozygous null C4 genes was found to be significantly increased in patients with IgAN or HSS [4]. In contrast, whereas IgAN has been related to the HLA B35 or DR4 antigens [4], no firm association has been found between HSS and the HLA system.

The sequential occurrence of the two diseases in the same subject has been rarely described: there are reports of patients (similar to ours) who were first diagnosed as having IgAN and after some years developed classic HSS [5,6]; other patients had initially typical HSS and then experienced recurrent episodes of macrohematuria leading to the diagnosis of IgAN [7, 8]. In the latter group of patients, however, the subsequent diagnosis of IgAN can be questioned since it is known that 10-30% of patients with HSS experience during follow-up recurrent gross hematuria associated with upper respiratory tract infections. Although it is generally conceded that IgAN and HSS have parallel pathophysiological mechanisms with both occurring as a result of immune complex deposition, the factors leading to the development of a single or multiorgan involvement have not been elucidated. It has been suggested that age-dependent variations in the development of the IgA mucosal system or individual differences in antigen exposure or handling of immune complexes may play an important role[1].

Our observation provides additional evidence that HSS and IgAN are closely related diseases.

References

Waldo FB: Is Henoch-Schönlein purpura the systemic form of IgA nephropathy? *Am J Kidney Dis* 1988;12:373-377.

Meadow SR, Scott DG: Berger disease: Henoch-Schönlein syndrome without the rash. *J Pediatr* 1985;106:27-32.

Weiss JH, Bhathena DB, Curtis JJ, Lucas BA, Luke RG: A possible relationship between Henoch-Schönlein syndrome and IgA nephropathy (Berger's disease). *Nephron* 1978;22:582-591.

Levy M, Lesavre P: Genetic factors in IgA nephropathy (Berger's disease). *Adv Nephrol* 1992;21:23-51.

Nakamoto Y, Asano Y, Dohi K, Fujioaka M, Iida H, Kida H, Kibe Y, Hattori N, Takeuchi J: Primary IgA glomerulonephritis and Schön-lein-Henoch purpura nephritis: Clinicopatho-logical and immunohistological characteristics. *QJMed* 1978;47:495-516.

Hughes FJ, Wolfish NM, McLaine PN: Henoch-Schönlein syndrome and IgA nephropathy: A case report suggesting a common patho-genesis. *Pediatr Nephrol* 1988;2:389-392.

Thorner PS, Farine M, Arbus GS, Poucell S, Baumal R: IgA nephropathy: Henoch-Schönlein purpura and Berger's disease in one patient. *Int J Pediatr Nephrol* 1986;7:131-136.

Cotton JB, Parchoux B, Vincent C, Ladreyt JP, Rekawek J: Purpura rhumatoïde et maladie de Berger chez un même patient. Deux observations. *Pédiatrie* 1991;46:333-335.

112

Nephron 1996;72:111-112

Ravelli/Carnevale-Maffè/Ruperto/Ascarì/ Martini