Alport Syndrome with Type I Membranoproliferative Glomerulonephritis

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Dear Sir,

In 1973 we reported the case history of a patient affected by Alport syndrome (AS) with superimposed Berger disease [1, 2].

It is well known that in AS renal biopsy shows no typical features at light microscopy, negative immunofluorescent findings, and characteristic ultrastructural lesions in about 80% of affected subjects, especially in males [3]. End-stage renal disease in males usually occurs in the 2nd or 3rd decade of life, but it is not clear how the inherited X-linked abnormality of the alpha5 chain of collagen IV of the glomerular basement membrane determines renal failure [4]. Moreover, different clinical phenotypes and progression to end-stage renal failure may be observed in male and female subjects and also within the same family; it has not yet been determined whether the different phenotypes correlate with different mutations within the gene.

AS is a relatively rare disorder and it is consequently rare to have a superimposed immune-mediated glomerular disease, but this event must nevertheless be considered.

We recently observed a 33-year-old male, coming from a family affected by AS, with a US

CL
DD

Fig. 1. Renal biopsy of a 33-year-old male patient with AS and superimposed idiopathic type I membranoproliferative glomerulonephritis. CL = Capillary lumen; US = urinary space; DD = electron-dense deposits. Electron micrograph. × 6400.
serum creatinine of 2.28 mg/dl, glomerular proteinuria of 2.5 g/24 h, normal audiometric and ophthalmological findings. The histological examination of renal biopsy revealed ultrastructural glomerular lesions of AS associated with intramembranous electron-dense deposits (fig. 1), and granular deposition of C3 along the glomerular capillary walls by immunofluorescence, as in idiopathic type I membranoproliferative glomerulonephritis. The molecular analysis of the gene (COL4A5) coding for the alfa5 chain of type IV collagen in the patient’s family did not reveal any lesion by Southern blotting or any point mutation detectable by SSCP technique in 8 examined exons of the gene [5]. There is no clinical or experimental evidence that the abnormalities in alfa5(IV) collagen chain of the glomerular basement membrane may favour the development of an immunemediated glomerulonephritis. Certainly, the coexistence of an hereditary and an acquired glomerular disease is likely to result in a more rapid progression towards end-stage renal failure.

References

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