Recklinghausen's Neurofibromatosis Associated with Membranous Nephropathy

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Dear Sir,

We present here a rare case of Recklinghausen's neurofibromatosis associated with membranous nephropathy. A detailed evaluation of the clinicopathological findings is described.

A 68-year-old Japanese woman was admitted to Kitasato University Hospital on May 30, 1990, because of general edema and severe proteinuria. She had a history of Recklinghausen's neurofibromatosis since 1964. Her proteinuria was first pointed out in April 1989 and continued since then. In December 1989, general edema developed. On admission, physical examination revealed a blood pressure of 140/80 mm Hg and general edema. There were multiple subcutaneous neurofibromas covering the entire skin surface involving café au lait spots on the right knee and the axilla. Laboratory findings were as follows: urinary protein 3-4 g/day, sediment RBC negative, WBC count 6,900/ μ l with normal differentials, RBC count 351 $\times$ 10⁶/ μ l, hemoglobin 10.6 g/dl, platelets 31.3 $\times$ 10⁹/ μ l, ESR 59 mm/h, serum total protein 4.7 g/dl, albumin 3.1 g/dl, total cholesterol 404 mg/dl, urea nitrogen 22 mg/dl, creatinine 0.8 mg/dl, IgG 380 mg/dl, IgA 77 mg/dl, IgM 131 mg/dl, CH₅₀ 33 U/ml, C3 56 mg/dl, C4 15 mg/dl, ANA negative, RA test negative, circulating immune complexes negative, Hbs-antigen negative, syphilis reaction negative, Cr 62 l/day. Malignancy survey revealed no abnormality.

Renal biopsy was performed on the 21st hospital day. The histological findings were compatible with membranous nephropathy. The biopsy specimen contained 10 glomeruli showing a diffuse moderate thickening of the capillary walls. Silver impregnation revealed diffuse vacuolization of the capillary walls

and the presence of perpendicular projections extending from the basement membrane.

Significant cellular proliferations were unremarkable. Two of the glomeruli showed segmental sclerotic changes with some foam cells. Tubular degeneration and atrophy were focally observed. Interstitial fibrosis and mononuclear cell infiltration were also noted in some parts. Interstitial foam cells were also seen. Ultrastructurally, diffuse subepithelial and intramembranous dense deposits were observed. The glomerular basement membrane was thickened with wide spike formation and included intramembranous lucent deposits in some parts. Newly formed glomerular basement membrane materials were also seen. Subendothelial and mesangial dense deposits were not observed at all. Im-munohistochemically, IgG and C3

were localized along the capillary walls in a membranous pattern. IgA, IgM, C1q, C4 and fibrinogen were not detected. Her proteinuria had gradually decreased to about 1-2 g/day by the 100th hospital day, although no special treatment was administered. Her renal function remained stable.

In the present case, nephrotic syndrome developed gradually during the course of Recklinghausen's neurofibromatosis. Renal biopsy revealed histological alterations compatible with membranous nephropathy. So far, to our knowledge, 3 cases of Recklinghausen's neurofibromatosis associated with glomerular lesions have been reported. These are minimal-change nephrotic syndrome [1], membranous nephropathy [2] and mesangial proliferative glomerulonephritis associated with aortitis syndrome [3]. Including our case, the relationship of the two diseases of Recklinghausen's neurofibromatosis and these glomerular lesions is far from clear. However, considering the possible mechanisms of the occurrence of membranous nephropathy in malignancies, the occurrence of the glomerular lesions may be related with Recklinghausen's neurofibromatosis, although it cannot be ruled out that the diseases occurred independently.

References

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