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Transformation of membranous nephropathy into antiglomerular-basement membrane glomerluonephritis

Sir,

Further to the recently published case of membranous nephropathy with superimposed anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis [1], we report a case of membranous nephropathy (MN) with crescentic transformation secondary to antiglomerular basement membrane (antiGBM) antibodies. AntiGBM disease is associated with ANCA-positive vasculitis in one-third of the cases but very rarely seen in association with MN. Individual cases or small series have been reported with the occurrence of antiGBM disease preceding, coexistent with or following MN [2–5].

A 63-year-old Caucasian male was referred to the renal services following detection of proteinuria on routine testing by the primary care physician. He was hypertensive for 11 years, well controlled with atenolol and bendroflumethazide. Other remarkable past medical history included open ureterolithotomy for renal stone disease. Initial laboratory tests showed serum urea 6.1 mmol/L, creatinine 105 μmol/L, albumin 31 g/L and proteinuria (4 g/24 h). Ultrasound showed a large left renal cyst and normal right kidney. ANA was weakly positive; serum immunoglobulins and complement levels were normal. HbsAg and antiHCV were negative.

Renal biopsy was performed and revealed 21 glomeruli, all of which showed marked thickening of the capillary walls. There was minimal tubular atrophy with normal blood vessels. Silver staining revealed spikes on the glomerular basement membrane and immunohistochemistry showed granular IgG, IgM and C1q positivity. Subepithelial deposits were seen on electron microscopy (Figures 1

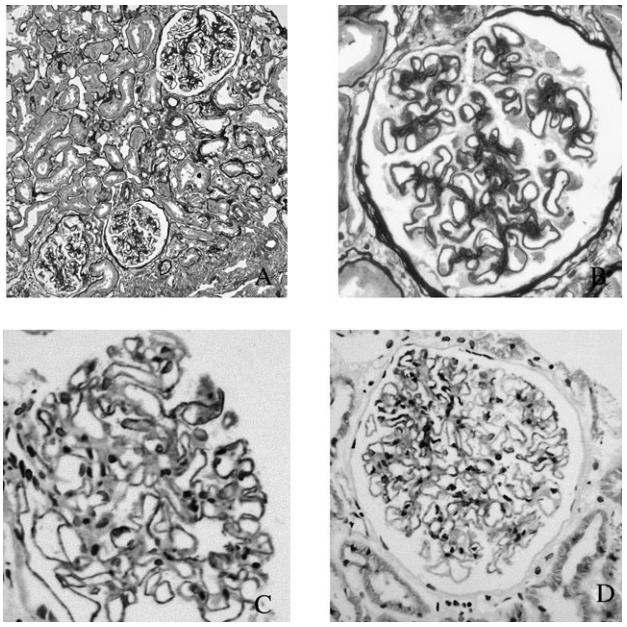

Fig. 1. (**A**) Renal biopsy (silver stain ×10), (**B**) silver stain shows spikes (×40), (**C**) immunohistochemistry reveals granular IgG deposition in glomerular basement membrane (×40) and (**D**) immunohistochemistry reveals granular C1q deposition in glomerular basement membrane (×40).

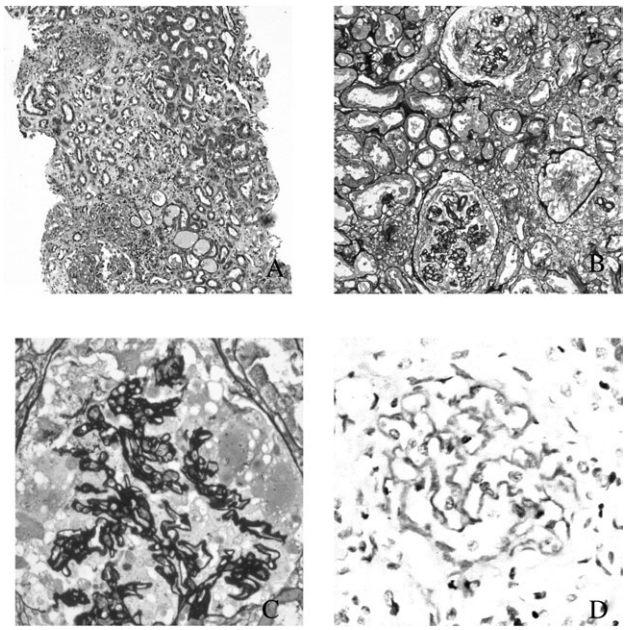

Fig. 2. (**A**) H*aemotoxylin and eosin* stain reveals crescents in the glomeruli (×1.6), (**B**) silver stain shows crescents in the glomeruli (×10), (**C**) silver stain shows crescent in the glomerulus (×40) and (**D**) immunohistochemistry shows IgG deposition in the glomerular basement membrane (×40).

and 2) anti-neutrophil cytoplasmic antibody (ANCA) (Figures 3 and 4). A diagnosis of idiopathic membranous nephropathy was made and he was commenced on ramipril and simvastatin.

Three months later, he presented non-specifically unwell with anorexia, dark urine and loin pain. Laboratory investigations revealed severe renal failure with urea 32.9 mmol/L, serum creatinine 503 μmol/L with low albumin 22 g/L. Magnetic resonance angiography performed on suspicion of renovascular disease revealed patent renal vessels with no evidence of thrombosis or stenosis. Serologic tests came back strongly positive for antiGBM antibodies (>100 ELISA units, 0–2.5 normal) and negative for ANCA. Chest X-ray was normal with no evidence of pulmonary haemorrhage. Repeat renal biopsy revealed four glomeruli and all showed segmental necrosis with active crescents (Figure 2). Silver staining revealed typical spikes on the glomerular basement membrane, with granular IgG, IgM, C3 and C1q on immunohistochemistry and subepithelial deposits on electron microscopy. Immunofluoroscence was not performed. The biopsy picture was consistent with coexistent membranous nephropathy and antiGBM disease. He was treated with haemodialysis, intravenous pulse cyclophosphamide, steroids and plasma exchange. With advanced renal injury on biopsy and dialysis dependency at presentation, he did not recover renal function. Serial antiGBM titres became undetectable and immunosuppression was tapered to stop by 2 months of discharge. The patient remained on CAPD for 2 years and received a successful living related renal transplant from his daughter.

Conflict of interest statement: None declared.

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