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LETTER TO THE EDITOR

Anti-glomerular basement membrane disease due to monoclonal IgG Lambda antibodies: a very rare case of monoclonal gammopathy of renal significance

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Dear Editor,

Diverse forms of renal disorders has been associated with monoclonal gammopathies (MG). Since the 2000s, several renal diseases without an overt MG-associated neoplasm (such multiple myeloma or lymphoma) have been reported. In 2012, the concept of monoclonal gammopathy of renal significance (MGRS) was introduced [1], which refers to B lymphocytes or plasma cell clones that secretes a small amount of paraprotein that can cause irreversible renal damage. The most frequent renal diseases described are focal renal AL amyloidosis and light chain deposition disease, although there is a wide range of them. Monoclonal anti-glomerular basement membrane (anti-GBM) disease due to monoclonal antibodies is extremely rare.

We present a 69-year-old female patient who was admitted to our hospital due to malaise and fatigue. On physical examination, she had normal blood pressure and pulmonary examination. Laboratory tests revealed a creatinine of 3.19 mg/dL (prior 0.8 mg/dL). Creatinine was rapidly increasing, reaching a creatinine clearance of less than 10 mL/min/1.73 m2 in a few days. The diagnostic hypothesis was vasculitis and a rapidly progressive glomerulonephritis (RPGN).

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She was initially treated with a bolus dose of 500-mg methylprednisolone and five sessions of plasmapheresis, with no response. She then started renal replacement therapy (RRT).

A renal biopsy was performed. By light microscopy, there were five remaining glomeruli involved by cellular crescents and necrosis. Immunofluorescence showed IgG Lambda glomerular deposition with a linear pattern along the capillary loops (Fig. 1). Hence, the patient was diagnosed as RPGN due to monoclonal IgG Lambda anti-GBM disease.

The serum and urine paraprotein and the serum anti-GBM autoantibodies studies were negative. We were not able to administer bortezomib, because the lack of it in the Chilean public system. She was administered thalidomide, cyclophosphamide, and prednisone; however, the patient only tolerated the therapy for 1 month. After a year, the patient achieved a creatinine clearance of 25 ml/ min/1.73 m2 and renal replacement therapy was discontinued. She is currently alive and with stable renal function after 2 years of follow-up.

Few similar cases [2–5] have been described in the literature. Most of them are young males, with heterogeneous findings regarding Ig renal deposits, paraprotein, and serum anti-GBM antibodies detection.

It is noticeable that despite the fact that none of these patients received bortezomib as therapy, only one had ended in RRT. This could be explained by the findings of Nasr et al. [6] who studied and described a so called atypical GBM disease. Those patients presented a more indolent course, without lung disease or serum anti-GBM autoantibodies. Paraprotein was present in only 50% of the cases, with IgG Lambda being the most common phenotype. Our patient fulfills this type of disease and clinical-pathological presentation.

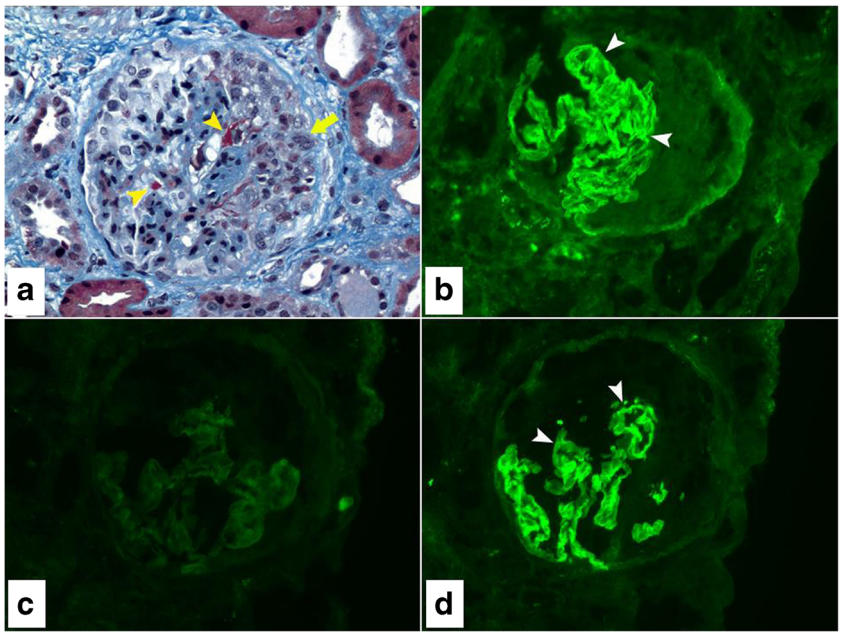

Fig. 1 **a** Glomerulus involved by a cellular crescent on the right half (arrow) with multifocal fibrin deposits (arrowheads), consistent with necrosis (Masson's trichrome stain, original magnification × 400). **b** Glomerulus with strong linear staining along the peripheral capillaries with IgG anti-serum (arrowheads). **c** Glomerulus with negative stain for kappa light chains anti-serum. **d** Glomerulus showing a linear pattern of positive stain (arrowheads), with lambda light chains anti-serum. (**b**, **c**, and **d** fluorescein isothiocyanate-labeled, original magnification × 400)

In conclusion, we believe that our patient had a very rare type of MGRS consisting of an "atypical" monoclonal IgG Lambda anti-GBM disease. We think that the use of drugs with anti-plasma cell activity, such as thalidomide or proteasome inhibitors, could improve even more the renal responses in these cases.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflicts of interest.

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