MONOCLONAL GAMMOPATHY - ASSOCIATED DEPOSITE DENSE GLOMERULONEPHRITIS RECURRENT IN RENAL TRANSPLANTED PATIENT: A CASE REPORT

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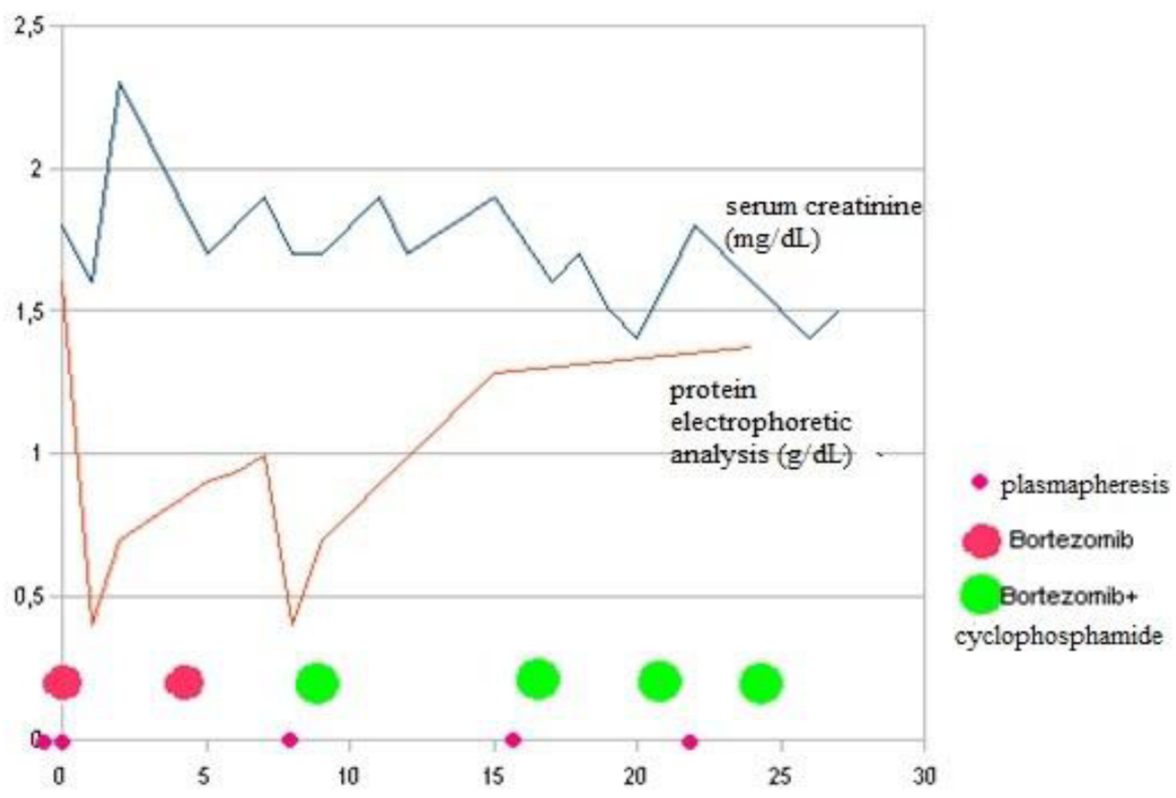
OBJECTIVES

DDD (Dense Deposite disease) and C3 nephropathy (C3GN) are rare forms of glomerulonephritis resulting from glomerular deposition of complement factors due to dysregulation of the alternative pathway of complement. Functional inhibition of the complement regulating proteins may result from monoclonal gammopathy. Proliferative glomerulonephritis tends to recur in the graft (recurrence rate up to 50%) and the risk of recurrence is higher when circulating monoclonal immunoglobulin are present in serum.

Figure 1: creatinine and MC profile in our patient



METHODS

We describe the case of a 65 year old men with ESRD due to DDD. A previous diagnosis of monoclonal gammopaty of undetermined significance (MGUS) was done. At bone marrow biopsy: 8% plasmacells, monoclonal component (MC) 30%. In 2014 he received a deceased donor kidney transplantation (Induction immunosuppression: basiliximab, mycofenolate mofetil and steroids; maintenance therapy: tacrolimus and steroids). At hospital discharge: serum creatinine - sCr 1,5 mg/dL, proteinuria 0,1 g/24h, C3 61 mg/dL(72-150).

RESULTS

One month after transplantation, sCr increased to 2,5 mg/dl. A renal biopsy (RB) demostrated an early DDD recurrence at electronic microscopy and immunofluorescence. MC was 23%. No evidence of complement mutation and of abnormal values of C5bC9 were found. A pulse steroid therapy was associated with a poor response. According to a newly described entities of MGUS associated C3 glomerulopathies, we proposed, after an haemathologic counseling, a treatment with plasmapheresis (5) and chemotherapy, initially with bortezomib (1,3 mg/m2/week subcutaneosly) and dexamethasone. Subsequently, owing a MC increase, cyclophosphamide (400 mg/week orally) for 3 weeks monthly for 6 months was adopted. Reduction of tacrolimus levels was prescribed (5 ng/mL). After 6 months: sCr 1,4 mg/dL, no adverse event, MC 14-7%. A protocol biopsy was performed after 4 months of therapy. The graft picture was unchanged .

CONCLUSIONS

Monoclonal gammopathy-associated glomerulonephritis is a newly described entity; particularly, DDD and C3GN may result from the direct glomerular deposition of monoclonal Ig that cause the activation of the alternative pathway of complement, resulting in renal deposition of complement-regulating proteins. Treatment should be aimed at eradicating the population of clonal cells responsible for the offending Ig. Currently, optimal approch is unknow. The association of bortezomib, dexamethasone and cyclophosphamide is reported and appears a reasonable option in presence of M protein in serum and urine and/or a proliferative glomerulonephritis with Ig deposits at immunofluorescence staining. In our patient this therapy was associated with an improvement of renal function and a MC reduction. In consideration of the well known slow progression of the glomerular disease we cannot establish the real impact of the teraphy. Yet, the approach seemed to us promising for the close linked haemathological and nephrological diseases.

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