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Rituximab-Induced Remission in Proliferative GN with monoclonal IgG deposits: A Case Report with Three Serial Renal Biopsies

Yong-Jin Kim[1], Jeong-Hoon Lim[2], Man-Hoon Han[1]
[1]Department of Pathology, Kyungpook National University Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Kyungpook National University Hospital, Korea, Republic of

Case Study : A 57-year-old female presented with hematuria, proteinuria, high blood pressure (SBP 170 mmHg), and renal insufficiency. The patient has a history of hypertension for 4 years, managed with ARBs and CCBs. Two months prior to presentation, she developed proteinuria and edema. Initial serum creatinine (Scr) was 1.9 mg/dL. Urinalysis revealed 4+ proteinuria, 11-20 RBCs, and no RBC casts. 24-hour urine protein was 10.4 g/day. The patient exhibited pitting edema (grade 3). Laboratory findings included normal C3 and C4, and negative tests for ANA, ANCA, Anti-GBM antibodies, Anti-PLA2R, HBsAg, HCV antibodies, and HIV. Additionally, IgG levels were decreased at 414 mg/dL (ref: 650-1600), and IgM was 27 mg/dL (ref: 50-300). Renal biopsy findings were proliferative GN with monoclonal IgG deposits (IgG, kappa). Treatment initiated included methylprednisolone (0.5 mg/kg) and mycophenolate mofetil (1000 mg/day). Edema was controlled with loop diuretics, and renal function showed improvement. Five months after initial admission, the patient presented to the ER with nausea, vomiting, and worsening edema. Serum creatinine was 2.68 mg/dL at that time. The second biopsy was performed. Second Biopsy findings were similar to those of first biopsy. Treatment after the second biopsy included methylprednisolone pulse therapy (500 mg/day for 3 days) followed by tapering to 0.5 mg/kg, and a change to oral cyclophosphamide (1.5 mg/kg/day) after discontinuing mycophenolic acid. Despite these interventions, azotemia worsened, and the patient developed anuria with generalized edema, prompting the initiation of hemodialysis (HD). One month after then, the patient received two consecutive doses of Rituximab (375 mg/m^2), and the cyclophosphamide dosage was maintained. Urine volume gradually increased, renal function improved, and dialysis sessions were reduced and eventually stopped. Third Biopsy revealed decreased cellularity in glomeruli and quite diminished intensity of immunofluorescence of depositions. Patient has been in remission state for 8 months.