

## KSN 2017 Abstract

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### C3 glomerulonephritis treated with cyclophosphamide and prednisolone: a case report

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**Background:** C3 glomerulonephritis (C3GN) are rare type of glomerulonephritis which caused by abnormal activation of the alternative complement pathway. In patients with C3GN, isolated deposits of C3 on immunofluorescence can be seen. In Korea, only once reported and it was a case of kidney transplantation patient. We reported C3GN which treated partially with cyclophosphamide and prednisolone.

**Case report :** A 69-year-old male patient with history of hypertension, diabetes mellitus, hyperlipidemia and cerebral infarction visited our outpatient clinic with symptoms of generalized edema and general weakness. He presented with gross hematuria (3+ in dipstick, 24/HPF), proteinuria (9540mg/day), elevated creatinine (1.8mg/dl) and hypokalemia (2.8mEq/L).

Serum C3 was lower normal range (0.92 g/L, : 0.9~1.8g/L), and other laboratory findings were normal include ANA titer, ANCA titer, IgG, IgA, IgM, and C4. He took a non enhanced abdominal computed tomography (CT) and there were no renal stone and other abnormal findings.

After 5 month later, both leg edema (both leg edema 3+~4+), and elevation of creatinine (2.84mg/dl) was aggravated, we recommended renal biopsy, but patient refused. 1 month later, creatinine level was 3.55mg/dl and renal biopsy was done with patient's permission.

Fluorescence microscopic findings are consistent with immune-mediated nephropathy and are suggestive of C3 glomerulopathy having an isolated mesangial and peripheral staining of C3.

Even though we gave KCL per oral and intravenously, hypokalemia lasted which was also founded in other C3GN cases.

Due to rapid progression, we started cyclophosphamide 25mg before biopsy, and increased to cyclophosphamide 75mg gradually, and add prednisolone 30mg after biopsy. After 2 weeks later, serum creatinine improved by level of 3 mg/dl. However only 14 days after discharge, patient experienced massive diarrhea, and admitted emergency room. At that time serum creatinine was 4.79mg/dl, despite of hydration and conservative management, it was getting worse. After all, we decide to start hemodialysis.

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**Conclusion :** C3GN was reported only once in Korea and it was a case of kidney transplantation patient. C3GN is known for difficulty of treatment. Nowadays, complement inhibitors , such as Eculizumab, are used for C3GN, but it is high-priced. We report this case because of treating C3GN with cyclophosphamide and prednisolone only partially but improved.

**Keywords :**