

## 독감과 관련된 막증식성 사구체 신염

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### A Case of Membranoproliferative Glomerulonephritis Associated with Influenza Infection

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Only one case of membranoproliferative glomerulonephritis (MPGN) associated with influenza infection was reported in the English literature. We report additional case of MPGN associated with influenza infection. A 69-year-old Korean woman was transferred to our hospital under the suspicion of nephrotic syndrome. She had visited the local hospital due to throat pain, high fever, and myalgia 20 days before and influenza was confirmed by rapid diagnostic tests of influenza on nasopharyngeal swab. She took 150 mg of Tamiflu<sup>®</sup> for 5 days. Her influenza symptoms were resolved, but edema around both eyes and lower extremities newly occurred 7 days before. Laboratory findings in other hospital revealed proteinuria, hematuria, and hypoalbuminemia. Her initial laboratory findings were as follows; WBC, 5,566/mm<sup>3</sup>; hemoglobin level, 11.4 g/dL; platelet count, 147×10<sup>3</sup>/mm<sup>3</sup>; blood urea nitrogen (BUN) and serum creatinine level, 26 mg/dL and 0.8 mg/dL, respectively; calcium, 8.3 mg/dL; phosphorus, 4.5 mg/dL; total cholesterol, 231 mg/dL; total protein, 5.9 g/dL; albumin, 3.1 g/dL; AST, 17 U/L; ALT, 12 U/L; Urinalysis revealed protein (+++), blood (+++), and WBC (-). Random urine protein creatinine ratio was 3.6. FANA, hepatitis B surface antigen, HCV antibody, ANCA, RA factor, HIV antibody, and VDRL were all negative. C3, C4, and CH50 level was 22.7 (90-180) mg/dL, 28 (10-40) mg/dL, and 15.6 (23-46) mg/dL, respectively. Renal biopsy revealed mesangial hypercellularity, capillary wall thickening, reduplication of basement membranes, IgG and C3 deposition on mesangium and capillary wall, and electron dense deposits in the mesangial and subendothelial region consistent with MPGN. Four weeks after presentation, most of all clinical manifestations of glomerulonephritis spontaneously resolved. Physicians keep in mind that influenza infection is associated with MPGN.

**Key Words:** 막증식성 사구체 신염, 인플루엔자, 단백뇨  
MPGN, Influenza, Proteinuria