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**Clinical differences of membranoproliferative glomerulonephritis (MPGN)  
according to presence of Hepatitis B virus infection**

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**Objectives:** Definition of MPGN by morphologic changes on light microscopic examination was reclassified into MPGN caused by immunoglobulin/immune complex injury and C3 glomerulopathy (C3G) with alternative complement pathway abnormality. MPGN might be caused by various causes such as malignancy, infection, autoimmune diseases, etc. It was rarely known the clinical characteristics of MPGN according to the possible causes excluding C3G.

**Methods:** We enrolled 20,481 patients having native kidney biopsy between 1979 and 2018, retrospectively. Among them, there were 553 patients with MPGN whom we reclassified into 18 patients with C3G and 535 MPGN patients. We excluded patients with cancer, autoimmune disease, hepatitis C virus infection, C3G, or combined pathologic diagnosis other than MPGN. Finally, we enrolled 156 patients without hepatitis B surface antigen (HBsAg)[MPGN] and 48 patients with HBsAg [MPGN\_HBV]. The final outcomes were incidences of end stage renal disease (ESRD) and death.

**Results:** Patients with MPGN\_HBV are younger than MPGN and included more males. The systolic blood pressure was not different between groups but the diastolic blood pressure was higher in MPGN\_HBV. The level of urine protein to creatinine ratio was not different between groups but the level of glomerular filtration rate (GFR) was higher in patients with MPGN\_HBV compared to patients with MPGN. Mortality was observed in 2 patients with MPGN\_HBV and 9 patients with MPGN during 64.9 months. Incident ESRD was notified in 6 patients with MPGN\_HBV and 39 patients with MPGN during 47.8 months. HBV positivity was not a risk factor to mortality and incident ESRD. The most important risk factor was hemoglobin and GFR at renal biopsy.

**Conclusions:** The clinical characteristics of MPGN according to presence of HBsAg were different, however, the prognosis was not dependent on HBsAg positivity, which suggested the severity of renal injury was more important than the cause of renal injury.