

## **IDIOPATHIC SEGMENTAL AND GLOBAL MEMBRANOUS NEPHROPATHY: ASSOCIATION OF IgG SUBCLASSES WITH COMPLEMENT PATHWAY**

Yoshie Segawa<sup>1</sup>, Satoshi Hisano<sup>1</sup>, Shinichi Hirose<sup>2</sup>, Morishige Takeshita<sup>1</sup>, Hiroshi Iwasaki<sup>1</sup>

Department of <sup>1</sup>Pathology and <sup>2</sup>Pediatrics, Faculty of Medicine, Fukuoka University, Fukuoka, Japan

### **Abstract:**

**Backgrounds:** Idiopathic membranous nephropathy (MN) was reported to be classified into two types according to the distribution of IgG deposits along the glomerular capillary loops; segmental glomerular deposition of IgG (S-MN) and global glomerular deposition of IgG (G-MN) on immunofluorescence (IF). The purpose of our study is to clarify the association of IgG subclasses with the complement pathway in these two types. **Design:** IF was performed in 16 patient and 20 controls with minimal change nephrotic syndrome (NS) or thin basement membrane disease by using antibodies against IgG, IgA, IgM, C1q, C3c, C4d, IgG1, IgG2, IgG3, IgG4, mannose binding lectin (MBL), C4-binding protein (C4-bp), factor B, C5b-9 and CD59. **Results:** Controls showed no deposition of any antibody. S-MN group was evident in 6 patients and G-MN in 10. IF revealed IgG1, IgG3, C1q, C3c, C4d, C4-bp, C5b-9 and CD59 deposits in S-MN group, whereas IgG1, IgG2, IgG3, IgG4, C3c, MBL, factor B, C4-bp, C5b-9 and CD59 deposits were detected in G-MN group. Deposits of IgG1, IgG2 and IgG4 were greater in G-MN than S-MN. The number of patients with nephrotic syndrome was higher in G-MN group than S-MN group. The clinical outcome was not different between the two groups through the mean follow-up of 70.5 months. **Conclusion:** We first report that S-MN shows the complement activation of classical pathway associated with IgG1 and IgG3, whereas G-MN shows the complement activation of both the alternative and lectin pathways associated with IgG2 and IgG4.