Membranoproliferative Glomerulonephritis in Japan

H.	Hiroyuki	Ohi
M.	Masato	Seki
M.	Michinobu	Hatano

Second Department of Medicine, Nihon University School of Medicine, Tokyo, Japan

Hyroyuki Ohi, MD, 2nd Department of Medicine, Nihon University School of Medicine, [Itabashi-ku](#), Tokyo 173 (Japan)

Dear Sir,

MPGN is often accompanied by hypocomplementemia [1], and is known to be a disease which shows nephrotic syndrome and has a poor prognosis [2, 3].

Since 1974, it has become compulsory for schools in Japan to carry out yearly health examinations including urinalysis, and most companies have followed suit. Since 1981, the measurement of complements (CH50, C3 and C4) has been reimbursed by the health insurance. We attempted to determine what changes had occurred in the clinical symptoms of MPGN as a result of this improvement in the medical system, and compared the findings with those of the conventional system.

In total, 752 cases were subjected to investigation, of whom 70% were below 20 years of age. By subtypes, they comprised 68% of type I, 5% of type II, 11% of type III; 16% were unclassifiable. It is clear that in Japan there are far fewer type II cases than in other countries. As regards the clinical symptoms at the time of discovery, 17.5% showed acute nephritic syndrome, 2% RPGN syndrome, 7.5% recurrent or persistent hematuria, 41.6% chronic nephritic syndrome, and 31.4% nephrotic syndrome. The cases discovered by the health examinations comprised 60% of the total. Among them, recurrent or persistent hematuria and chronic nephritic syndrome represented 70%, and 70% of the cases were under 15 years of age. As regards the clinical response to treatment, 49% were improved, 18.5% exacerbated, and 32.4% unchanged, whereas in terms of the histological responses to treatment, 19% were improved, 9.2% exacerbated, 15% unchanged, and 57.2% impossible to evaluate because of nonrepeated biopsy. By age, cases under 15 years improved more than those above. By clinical symptoms, cases with acute nephritic syndrome and recurrent or persistent hematuria improved more than the others.

Concerning the complements, CH50 values of below 20 U amounted to 54% of the total, C3 of below 30 mg/dl to 44.4%, and C4 of below 10 mg/dl to 16%. When a comparison was made between cases above and below 15 years old, each mean $\pm$ SD for CH50, C3 and C4 was significantly lower in the cases below 15 years. Cases in whom low values were recognized during the evolution of complements represented about 90% of the total.

The above results indicated that cases with light nephritic symptom and cases who evidently improved through treatment had increased and the clinical symptoms of MPGN had undergone changes with the spread of the health examinations.

Thus, earlier diagnosis by health examination, followed also by earlier treatment, appears to be important for improving the prognosis of MPGN. As regards early diagnosis, measurement of the complement levels seems to be of value. That is, measurement not only at the first diagnosis

but also of the evolution of the complements may be a useful parameter for the diagnosis. When a low complement is observed, it is important for the earlier diagnosis of MPGN to perform a biopsy when MPGN is suspected even if the case shows only light nephritic symptoms.

References

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