Complete Remission in Idiopathic Membranous Glomerulonephritis

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Dear Sir,

Idiopathic membranous glomerulonephritis (IMGN) is a disease with a variable course. Its natural history indicates that complete remission occurs in 15-63% of patients with IMGN with stable renal function [1, 2]. Little attention has been paid to the clinical and histological alterations which definitely play a key role in late remission. It is known that remission time differs case by case, but factors which have an effect on remission time remain undefined. In our series, complete clinical remission – defined as a reduction of proteinuria to 0.2 g/day or less – was observed in the case of 41 followed up patients of 100 with IMGN after a mean interval of 8.4 ± 6.6 years (3-22) from the time of the first renal biopsy. Twenty-seven patients became symptom-free in the first 5 years. In the case of 7 patients, it took 5-10 years, and in another 7 patients, it took more than 10 years to become symptom-free. At the time of renal biopsy, the degree of protein-

uria and mean serum creatinine concentration were significantly higher and the average level of creatinine clearance (Ccr) was significantly lower in the patients of the late remission group (table 1). No patient was hypertensive. Renal biopsy showed stage 1 glomerular lesion in 10 patients, stage 2 in 23, stage 3 in 7 and stage 4 in 1 patient. Four patients had mild tubulointerstitial (TI) lesion. No patients in this series had vascular lesion. Ultrastructural morphometric analysis was used to measure the size of the subepithelial electron-dense deposits (SED) [3] and the thickness of the glomerular basement membrane (GBM), according to Osawa's method [4]. The average size of the SED was significantly larger in the late remission group compared to the other groups. The GBM was significantly thickened in the patients who entered complete remission 10 years later after the first renal biopsy (table 2).

We compared the length of time between biopsy and remission and found good correlations when observing: (1) Ccr ($r = -0.625$, $p < 0.001$); (2) proteinuria ($r = 0.73$, $p < 0.01$; fig. 1); (3) SED ($r = 0.61$, $p < 0.001$; fig. 2); (4) GBM ($r = 0.543$, $p < 0.002$). Two thirds of the patients with short remission were treated with steroid (methylprednisolone) alone (13 cases) or steroid combined with immunosuppressant (cyclophosphamide) (4 cases) drugs. Despite the drug therapy, 7 cases entered complete remission after 10 years.

These results are in accordance with previous observations. Some authors report late remission in patients with large, numerous deposits and thickened GBM. However, no study has been published about the morphometric analysis of deposit size and GBM thickness in patients with IMGN and their role in remission time length. According to Franklin [1] and

others [5,6], our data suggest that the normalization of glomerular structures, especially GBM, is synchronous with the normalization of renal function.

Table 1. Clinical and laboratory data in relation to remission time in 41 patients with IMGN

Features

Group 1

(< 5 years, n = 27)

Group 2

Group 3

(5 – 10 years, n = 7) (≥10 years, n = 7)

NS = Nephrotic syndrome. *= $p < 0.05$; **= $p < 0.01$.

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Table 2. Distribution of the morphometric data and stages of glomerular lesion in relation to remission time in 41 patients with IMGN

Features

Group 1

Group 2

Group 3

(< 5 years, n = 27) (5 – 10 years, n = 7) (≥10 years, n = 7)

15-

15

10-

10

5-

0-

0

0.5

1.0

1.5

2.0

Urinary protein, g/day

Subepithelial deposit size, μm

Fig. 1. Relationship between degree of urinary protein and re-

mission time (n = 39,

mission time (n = 41, $r = 0.73$, $p < 0.001$). $r = 0.61$, $p < 0.001$).

Based on the above-cited findings and our results, we hypothesize that the duration of MGN from the time of biopsy to complete remission depends on the severity of the glomerular capillary wall lesion (SED size and GBM thickness) and the patient's functional renal state at the time of biopsy.

The data suggest that the disappearance of clinical symptoms, laboratory abnormalities and structural alterations take up a lot of time in the cases in which the structural and related [3] functional abnormalities are more severe at the time of the first renal biopsy.

Fig. 2. Relationship

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