Distribution of Mononuclear Phagocytes in Glomerulonephritis with Crescents

E.N.		Sarno
F.B.F.		Alvarenga
F.		Ruzany
C.R.		Gattass

E. N. Sarno, MD, F. B. F. Alvarenga, MD, F. Ruzany, Universidade Estadual do Rio de Janeiro, R.J., Brasil, Universidade Federal do Rio de Janeiro, R.J., Brasil

Sir,

The presence of crescents in glomeruli has been a criteria to characterize a kind of glomerulonephritis of serious prognosis. Still recently, the cells forming these crescents were believed to be of epithelial origin. However, since the presence of mononuclear phagocytes was demonstrated in experimental crescentic glomerulonephritis it has been of interest to investigate these structures in human crescentic glomerulonephritis.

We studied the distribution of mononuclear phagocytes in 5 cases of glomerulonephritis: 2 cases of systemic lupus erythematosus, 2 cases of rapidly progressive glomerulonephritis and 1 case of hemolytic-uremic syndrome. In all cases more than 50% of the glomeruli had crescents, in different stages of evolution.

Frozen sections of the biopsies were analyzed by indirect immunofluorescence using murine monoclonal antibodies (Ortoclones, Ortho Pharmaceutical Co., Raritan, N. J.). In brief, OKT4 and OKT8 were used to identify the inducer-helper and the cytotoxic-suppressor subsets of the peripheral lymphocytes, respectively, and OKM1 to characterize monocytes. In all cases studied, cells reactive with OKM1 were present in the crescents, glomerular tufts and renal interstitium, while few cells were reactive with OKT4 and OKT8 and seen only in the interstitium (table I). Our data suggest that monocytes are present in the glomerular capillary tuft as well as in the crescent of these cases. Their presence is indicative that these cells may be responsible in part for the hypercellular aspect of these glomeruli. Nevertheless, their real contribution for the latter aspect was impossible to determine because only a few cells were positive in each glomerulus.

Table I. Frequency of positive cells on crescentic glomerulonephritis

Monoclonal antibodies

OKMi + OKT4 + OKT8 +

5* 0 0

Crescents -

5 5 5

0 0 Glomerular capillary tuft -

4 4

5 2 3

Interstitial cells -

5 4 4

* Number of positives. Number of cases.

The difference between the number of cells seen at the crescent by optic microscopy and the OKMI-positive cells at the glomerulus may represent technical difficulties, loss of antigen due to maturation or differentiation into other cells (like fibroblasts) or finally cells of different origin.

T. These possibilities deserve further studies

but

considering our cases

it is clear that

at least in part

monocytes are involved in crescent formation and in the hypercellular aspect of the glomerular tuft.