Dear Sir,

A study on the detection of serum IL-6 in patients with non-insulin-dependent diabetes mellitus (NIDDM) with or without nephropathy is described. IL-6 is generally regarded as a multifunctional cytokine which has a variety of biological activities, including the ability to stimulate bone marrow stem cell proliferation, B cell differentiation, immunoglobulin secretion, T cell activation, and acute phase protein synthesis [1, 2]. IL-6 is also produced by the renal glomerular mesangial cells. Cytokines are known to play an important role in autoimmunity and appear to be involved in the pathogenesis of insulin-dependent diabetes mellitus (IDDM). However, Cavallo et al. [3] reported that detectable levels of serum IL-6 were observed in only 10% of IDDM patients. Serum samples were obtained from 9 patients with NIDDM with nephropathy, 9 patients with NIDDM without nephropathy, and 29 patients with chronic glomerulonephritis (CGN). NIDDM was diagnosed with a 75-gram glucose tolerance test. Patients with diabetic nephropathy continuously showed more than 200 mg/24 h. Serum IL-6 levels were measured with ELISA as described previously [4]. Mouse monoclonal anti-IL-6 antibody (HH61-10) and monoclonal horse radish peroxidase-conjugated anti-IL-6 antibody (HH61-2 Fab') were used in a double-antibody sandwich ELISA [5]. Levels of serum IL-6 of healthy controls were less than 4.0 pg/ml [5]. The mean levels of serum IL-6 in all patients with NIDDM were significantly higher than those in patients with CGN (p < 0.05). The levels of serum IL-6 in patients with diabetic nephropathy were significantly higher than those in cases of CGN or NIDDM without nephropathy (p < 0.01 and p < 0.05, respectively; table 1). It appears that the presence of IL-6 in the patients’ sera may reflect increased localized production of this cytokine at the pancreatic and/or glomerular mesangial levels. The measurement in serum IL-6 may add
information on the role that it may play in the pathogenesis of NIDDM, especially diabetic nephropathy.

Table 1. Levels of serum IL-6 in patients with NIDDM with or without nephropathy and CGN

Values represent mean ± SE. \( \text{ap} < 0.05, \) vs. CGN; \( \text{bp} < 0.01, \) vs. CGN; \( \text{cp} < 0.05, \) vs. NIDDM without nephropathy.

©1994 S. Karger AG, 0028-2766/94/0682-0284$8.00/0

References


285