

This study was designed to determine whether there was any difference in the T-cell subset counts and serum immunoglobulin concentrations in patients with chronic renal failure as compared to normal controls. Ninety individuals participated in the study. These were divided into three groups as follows; (i) 30 subjects with normal renal function; (ii) 30 subjects with chronic renal failure (CRF)(creatinine clearance 10-50 mls/min), not requiring haemodialysis and; (iii) 30 subjects with end stage renal disease (creatinine clearance < 10 mls/min) on haemodialysis. The subjects in the three groups were matched for age and sex. In addition, it was ascertained that none of the subjects was on any medication or suffered from any ailment known to interfere with the immune system. The T-cell subset counts were carried out using flow cytometry while the serum concentration of immunoglobulins was measured using the radio-immunodiffusion method. Patients with CRF, whether on haemodialysis or not, had significantly lower lymphocyte counts as a proportion of total white cell count (19% and 19.2% respectively versus 39%) and low absolute CD4 cell counts per mm³ (337 +/- 94 and 449 +/- 116 respectively versus 891 +/- 360) and CD8 cell counts per mm³ (437 +/- 234 and 490 +/- 176 respectively versus 644 +/- 228) as compared to normals, with no statistically significant difference between the two groups with CRF. The CD4: CD8 ratios in the three groups studied were 1.487 +/- 0.233, 0.961 +/- 0.326 and 0.751 +/- 0.167 respectively, being significantly higher in normal controls than in any of the groups with CRF ($p < 0.05$) and in the group with CRF not requiring dialysis than in those requiring it ($p < 0.05$). The serum concentration of immunoglobulins in the two groups with CRF were similar to those in the group with normal renal function. It is concluded that CRF represents a state of immunodeficiency not significantly corrected by haemodialysis.