Evaluation of the influence of dialysis tech niques on cellular and humoral immunity

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Infection represents a major problem inpatients wit)!.renal failure and uraemia. In attemptingto define factors which may provide the basisfor this clinical observations there appear to bemUltiple potential determinations. Among these couldbe included increased exposure to potential hazardof exogenous microbial agents in the hospital environmentas well as defective host defense mechanisms.The later would include these immune mechanisms mediatedthrough B-cell lines by the production ofspecific immunoglobUlins and those mediated throughT-lymphocytes and definided as cellular immunity.The aim of this work to study the behaviourof the immune system in patients with chronic renalfailure on haemodialysis and peritoneal dialysisfor varying periods and to form an immunologicalprofile for a patient with chronic renal failure bnt'~dialysis standing for renal transformation.Our study was carried out on 30 patientstreated by haemodialysis or peritoneal dialysis forone month, 3 months and one year :Group 1 : Fifteen Chronic Renal Failure Patients .treated with intermittent haemodialysisof average age 39 years and average serumcreatininebefore dialysis 13.5 gm.%.Group 2 : Fifteen chronic Renal Failure Patientson intermittent peritoneal dialysis withaverage age 40 years and average s~rumcreatinine 15.3 mg.%.In addition to ten control cases also ineluded.The following tests were done for thosepatients :A. ~.l:~2!..~~~-!!!!JII.tJX'!ni1. Delayed hypersensitivity skin tests:a. Purified protein derivatives (Tuberculintest) •.b. Dintro chlorobenzene (D.N.C.B.).2. E. Rosette.3. Active E. Rosette.B. ~.!:s for Humoral I!!!M~ni.!l1. Quanti tation of B lymphocytes. by immunofluorescentmethod.2. Quantitation of immunoglobulin level (IgG,IgA and IgM) by radial immuno-diffusion method.The results showed:1. There was decreased number and function ofT lymphocytes in uraemic patients comparableto normal controls in E. Rosette and activeE. Rosette and skin tests. The number and functionof T lymphocytes were not improved afterhaemodialysis at any time of the study. On theother hand it had been found that the numberand functions of T lymphocytes were improvedin E. Rosette, active E. Rosette and skin testsafter peritoneal dialysis. There was no improvementin parameters of humoral immunity either afterhaemodialysisnor peritoneal dialysis.w~concluded that there was marked depressionof cellular immunity in chronic renal failurepatients wich is not affected by haemodialysisbut improved after three months and one year ofperitoneal dialysis. Humoral immunity in chronicrenal failure patients were normal and not affectedeither by haemodialys nor by peritoneal dialy'sis~So uraemic

patients prepared for kidneytransplantation must treated by haemodialysis becauseit does not affect cellular immunity.