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DIABETIC NEPHROPATHY: FRESH PERSPECTIVES

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Summary. Diabetes is the disorder most often linked with development of end-stage renal disease (ESRD) in the USA, Europe, South America, Japan, India, and Africa. Kidney disease is as likely to develop in long-duration non-insulin dependent diabetes (type 2) as in insulin-dependent diabetes mellitus (type 1). Nephropathy in diabetes — if suboptimally managed — follows a predictable course starting with microalbuminuria through proteinuria, azotemia and culminating in ESRD. The rate of renal functional decline in diabetic nephropathy is slowed by normalization of hypertensive blood pressure, establishment of euglycemia, and a reduced dietary protein intake. When compared with other causes of ESRD, the diabetic patient sustains greater mortality and morbidity due to concomitant (co-morbid) systemic disorders especially coronary artery and cerebrovascular disease. A functioning kidney transplant provides the uremic diabetic patient better survival with superior rehabilitation than does either CAPD or maintenance hemodialysis. There are no reports, however, of prospective controlled studies of dialysis versus kidney transplantation in diabetic patients whose therapy was assigned randomly. For the minority (<10%) of diabetic ESRD patients who have, performance of a combined pancreas and kidney transplant may cure diabetes and permit full rehabilitation. No matter which ESRD therapy has been elected, optimal rehabilitation in diabetic ESRD patients requires that effort be devoted to recognition and management of co-morbid conditions. Survival in treating ESRD in diabetes by dialytic therapy and renal transplantation is continuously improving. This inexorable progress in therapy reflects multiple small advances in understanding of the pathogenesis of extrarenal micro- and macrovasculopathy in an inexorable disease, coupled with safer immunosuppression. In this context, trials of pimagidine and aldose reductase inhibitors are now being conducted. Recognizing the perturbed biochemical reactions underlying the pathogenesis of diabetic vasculopathy — especially the adverse impact of accumulated advanced glycosylated end-products (AGEs) — raises the possibility of blocking end-organ damage without necessarily correcting hyperglycemia. **Key words:** Diabetes, epidemiology, dialysis, transplantation