

patients with proteinuria should prompt consideration of a diagnosis other than diabetic nephropathy; only 60% of patients with type 2 diabetes with nephropathy have diabetic retinopathy. There is a significant correlation between the presence of retinopathy and the presence of Kimmelstiel-Wilson nodules (see Fig. A4-20). Even with advanced chronic kidney disease, patients with diabetic nephropathy will have enlarged kidneys. Using the above data, and in the absence of other clinical or serologic data suggesting another disease, diabetic nephropathy is usually diagnosed without a renal biopsy. The risk of progression to ESRD is influenced by treatment and other risk factors, and reports vary from a decline of 1.8–14 mL/min per year. Survival on dialysis is worse for patients with diabetes. Renal transplantation results in better survival than dialysis.

Good evidence supports the benefits of blood sugar and blood pressure control, inhibitors of the renin-angiotensin-aldosterone system (RAAS), and inhibitors of SGLT2 in retarding the progression of diabetic nephropathy. In patients with type 1 diabetes, intensive control of blood sugar clearly prevents the development or progression of diabetic nephropathy. The evidence for benefit of intensive blood glucose control in patients with type 2 diabetes is less certain, with current studies reporting conflicting results.

Controlling systemic blood pressure decreases renal and cardiovascular adverse events in this high-risk population. The vast majority of patients with diabetic nephropathy require three or more antihypertensive drugs to achieve this goal. Drugs that inhibit the RAAS (ACE inhibitors, angiotensin receptor blockers [ARBs]), independent of their effects on systemic blood pressure, have been shown in large clinical trials to slow the progression of diabetic nephropathy at early (microalbuminuria) and late (proteinuria with reduced glomerular filtration) stages. Evidence suggests increased risk for cardiovascular adverse events without increased efficacy in patients with a combination of two drugs (ACE inhibitors, ARBs, or renin inhibitors) that suppress several components of the RAAS. In patients with type 2 diabetes and kidney disease with albuminuria, the risk of kidney failure and cardiovascular events was lower in those receiving SGLT2 in addition to inhibitors of the RAAS. Ongoing