

key points

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Prolonged duration of diabetes, poor glycaemic control and hypertension are major risk factors for both diabetic nephropathy and cardiovascular disease. Optimising blood sugar control together with excellent control of blood pressure can reduce the risk of developing diabetic nephropathy.

Diabetic nephropathy should be considered in any patient with diabetes when persistent albuminuria develops. Microalbuminuria is the earliest clinically detectable indicator of diabetic nephropathy risk. The majority of patients with diabetic nephropathy are appropriately diagnosed based on elevated urinary albumin excretion and/or reduced renal function. Patients with type 2 diabetes should have annual urinary ACR measurements from the time of diabetes diagnosis while those with type 1 diabetes should commence five years after diagnosis.

Blood pressure lowering to 130/80 mmHg and reduction of proteinuria to < 1 g/day retards progression of diabetic nephropathy and reduces the number of cardiovascular events. Drugs that block the renin-angiotensin-aldosterone system (RAAS) are effective in reducing proteinuria, managing hypertension and reducing cardiovascular risk. Unless there are clear contraindications or intolerance all patients with diabetic nephropathy should be prescribed an ACEI or ARB.

Stopping an ACEI or ARB during intercurrent illness or during times of volume depletion is critically important. Co-prescription of an NSAID causes further reduction in glomerular pressure by inhibiting the beneficial prostaglandin-mediated afferent arteriolar vasodilation. A daily sodium chloride intake of 5 g or less is recommended and caution should be exercised in using salt substitutes containing potassium chloride as individuals taking RAAS inhibitors may develop dangerous hyperkalaemia.

Metformin should be stopped in the setting of illnesses such as sepsis, volume depletion or acute cardiac events as there is a small but important risk of lactic acidosis. All patients with diabetic nephropathy should have at least yearly measurements of blood pressure, renal function and urinary ACR. If possible, pregnant women should be switched to more 'pregnancy-friendly' antihypertensives such as methyldopa, labetalol or nifedipine.