



Therapeutic Strategies in Diabetic Nephropathy and Diagnosis

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DESCRIPTION

Diabetic nephropathy Kidney disease caused by diabetes is the most common cause of renal failure. Almost one-third of diabetic patients develop diabetic nephropathy. People with diabetes and kidney disease are generally worse than those with kidney disease alone. This is because people with diabetes usually have other long-term conditions such as high blood pressure, high cholesterol, and vascular disease (atherosclerosis). People with diabetes are also more likely to have other kidney problems, such as bladder infections and nerve damage to the bladder. Pathophysiological abnormalities in diabetic nephropathy usually begin with prolonged poor control of blood sugar levels. Following some changes to the kidney, nephron filtering unit. First, especially nephrons become obsolete, and paradoxically, the adjustment of hyper filtration is delicate stress on the glomerular capillaries.

Causes

Diabetic nephropathy develops slowly. According to one study, 15 years after being diagnosed with diabetes, one-third high levels of albumin in their urine. However, less than half of these people develop complete nephropathy [1]. According to statistics, kidney disease is rare in people less than 10 years old with diabetes. If there are no clinical signs of nephropathy 20 to 25 years after the onset of diabetes, it is less likely to develop thereafter. If a person with diabetes effectively controls his or her blood sugar levels, the chances of diabetic nephropathy are low. High blood sugar levels increase the risk of high blood pressure due to blood vessel damage [2]. High blood pressure, or high blood pressure, can contribute to kidney disease.

Vicious cycle of induced injury, further increase in proteinuria and blood pressure and additional nephron injury and decreased overall renal function. At the same time, there are changes in the glomerulus itself. This includes thickening of the basement membrane, enlargement of the slit diaphragm of podocytes, an increase in the number of mesangial cells, and an increase in the mesangial matrix [3]. This matrix invades the glomerular capillaries and produces deposits called Kimmelstiel-

Wilson nodules. Mesangial cells and matrices gradually expand and consume the entire glomerulus, which can interfere with filtration.

Diagnosis

A specific blood test that looks for specific blood chemistry can be used to diagnose kidney damage. It can also be detected early by finding proteins in the urine. There are treatments that can help slow the progression of kidney failure. Therefore, if you have diabetes, you need to have a urine test every year. A specific blood test that looks for specific blood chemistry can be used to diagnose kidney damage. It can also be detected early by finding proteins in the urine. There are treatments that can help slow the progression of kidney failure. Therefore, if you have diabetes, you need to have a urine test every year [4].

TREATMENT

Reduced Cardiovascular Risk: People with diabetes have a significantly increased risk of cardiovascular disease. It is also an independent risk factor for renal failure. Therefore, it is important to actively manage cardiovascular risk factors in diabetic patients, especially those with diabetic nephropathy. Key elements of cardiovascular disease treatment are tobacco discontinuation, hypolipidemic therapy (such as statins), regular exercise and a healthy diet. Atorvastatin is preferred over other statins in patients with renal disease because it does not require GFR-based dose adjustment [5].

Glycemic control: Several studies have found a positive effect on improving glycemic control on the clinical outcome of patients with diabetic nephropathy. Intensive glycemic control also reduces the incidence of other DM complications such as retinopathy and neuropathy. Glycemic control is primarily maintained by insulin in patients with type 1 diabetes and hypoglycemic agents and insulin in patients with type 2 diabetes. Studies have shown that a target HbA1c concentration of 7% reduces micro vascular complications in diabetic nephropathy. Further lowering of HbA1c is not recommended for most

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patients as it does not correlate with better outcomes and may therefore increase the risk of hypoglycemic episodes.

Blood Pressure Control: Several randomized clinical trials have shown the benefit of lowering systolic blood pressure to less than 140 mmHg in patients with diabetic nephropathy. Hypertension is associated with micro albuminuria, accelerated onset of hyper proteinuria, and decreased renal function. Angiotensin converting enzyme inhibitors and angiotensin II receptor blockers are especially useful in lowering blood pressure and slowing the progression of nephropathy in diabetic patients.

Maintain regular appointments for diabetes management. Maintain annual appointments, or more frequent appointments if recommended by the healthcare team, to monitor how well you manage your diabetes and screen for diabetic nephropathy and other complications. Treat your diabetes. Effective treatment of diabetes can prevent or delay diabetic nephropathy. Manage high blood pressure and other medical conditions. If you have other symptoms that increase your risk of high blood

pressure or kidney disease, work with your doctor to manage them. Follow the instructions for over-the-counter medications.

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