Diabetic Nephropathy

DN has now emerged as the most common single cause of ESKD in the world. Indeed, over 40% of patients entering the dialysis program do so because of DN. This is basically because of at least two reasons: that diabetes especially T2D is on the increase and secondly because diabetic patients are now living longer as opposed to earlier when these patients were denied treatments like dialysis. However, even now with the full advent of dialysis, the mortality is higher among diabetic patients compared to non-diabetics in the first and fifth year after commencement of dialysis. DN is thought to result from interplay between hemodynamic and metabolic factors. The hemodynamic changes of glomerular hyperperfusion and hyperfiltration are evident long before any measurable clinical signs of DN. The best evidence to demonstrate the importance of hyperperfusion in the genesis of DN is the development of unilateral DN: One kidney is spared the development of DN because of concurrent renal artery stenosis on the ipsilateral side preventing hyperperfusion developing. Hyperglycemia plays a central role in a cascade of damaging effects mediated by cytokines and growth factors but hyperglycemia alone is not conclusive. It does not fully explain the risk of diabetic nephropathy as evidenced by experimental studies in which kidneys were transplanted from non-diabetic donors to diabetic recipients; these kidneys developed DN irrespective of the blood sugar level. Hyperglycemia is therefore important but not enough. Since not all diabetic patients develop nephropathy, there must be some predisposing factors that put these patients at a higher risk of developing this complication. These factors include genetic susceptibility, hypertension, hyperglycemia and others which denote the important role of blood sugar and BP control in preventing the development of DN.

Biography

Mustafa Nur Elhuda Suleiman is a Professor of Medicine and Consultant Nephrologist. He is the Founder of Nephrology Services in Dubai and the Northern Emirates and a Founding Member of Seha Dialysis Services in Abu Dhabi.

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