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# Pentoxifylline: a potential therapy for chronic kidney disease.

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Almost all forms of chronic kidney disease progressing to end-stage kidney failure are characterized by diffuse fibrosis, a final common pathway converging from multiple pathogenetic networks regardless of the initial injury. Four principal interventions including glycaemic and blood pressure control, dietary protein restriction, and angiotensin II blockade have been proven to slow progression of diabetic and/or non-diabetic chronic kidney disease. However, the ultimate solution to halt disease progression in the long term is still pending. Because of the pathogenetic complexity of kidney disease, multidrug intervention with the least side-effects should, without doubt, be the next step to stop kidney disease progression. Animal and cellular studies have demonstrated the rationale for pentoxifylline (i.e. its effects against cell proliferation, inflammation, and extracellular matrix accumulation) in the treatment of chronic kidney disease induced by immune- or non-immune-mediated mechanisms. Limited human studies have proven its efficacy in reducing proteinuria in patients with diabetes receiving angiotensin-converting enzyme inhibitors, and in patients with nephrotic syndrome refractory to conventional immunosuppressive therapy. Moreover, monotherapy with pentoxifylline markedly reduces proteinuria in patients with membranous nephropathy. Further studies are required to examine whether pentoxifylline can improve the renal outcome in patients receiving interventions with proven efficacy.

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