Proteinuria: natural course, prognostic implications and therapeutic considerations.

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In individuals with normally functioning kidneys a small amount of proteins are secreted in the urine everyday. However, urinary albumin excretion (UAE) above 30 mg/day is considered abnormal; UAE levels between 30-300 mg/day are considered as microalbuminuria, whereas every albumin or protein excretion above 300 mg/day represents macroalbuminuria or clinical proteinuria. The prevalence of proteinuria in the general population is rather low, but it increases considerably in patients with diabetes or hypertension. The natural course of proteinuria is also different in patients with diabetic or nondiabetic nephropathy: however its prognostic implications for renal and cardiovascular endpoints are the same, independently from the underlying kidney disease. Recent population studies and post hoc analyses of outcome trials have shown a continuous association between the level of UAE and the risk for cardiovascular events, as well as cardiovascular and overall mortality. Thus, both microalbuminuria and proteinuria today are considered risk factors for cardiovascular disease. Moreover, proteinuria is a typical manifestation of overt nephropathy and is associated with faster decline of renal function. These roles of proteinuria are further supported by the fact that interventions that reduce UAE have been associated with slower decline in renal function and decrease in the risk of cardiovascular events. This article will discuss data on the prevalence and natural history of proteinuria, its prognostic implications for chronic kidney disease and cardiovascular disease, as well as on therapeutic approaches to reduce its impact, with special focus on blood pressure control.

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