The risk factors of diabetic nephropathy in Taiwan, including old age, hypertension and aspirin therapy

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Dear editor

Taiwan has the highest prevalence and incidence of dialysis in the world and diabetes mellitus (DM) causes about 40 % of end-stage renal failure [1]. Therefore, we would like to investigate the risk factors of diabetic nephropathy. A total of 379 Taiwanese treated for type 2 DM at least one year were analyzed from January 2010 to April 2011. Patients with hypertension (HTN) had lower estimated glomerular filtration rate (eGFR) than those without HTN (64.7 ± 18.3 vs 70.9 ± 20.2 ml/min, $P < 0.005$), but those who accepted angiotensin-converting enzyme inhibitor (ACEI) or angiotensin II receptor blocker (ARB) therapy showed no harmful effects to renal function. Patients who took aspirin presented lower eGFR than those who didn't use aspirin (60.4 ± 19.8 vs 67.7 ± 19.5 ml/min, $P < 0.05$). After one year of observation, patients with microalbuminuria had lower eGFR than those with normoalbuminuria (64.9 ± 19.7 vs 69.3 ± 19.8 ml/min, $P < 0.05$); in the original normoalbuminuria patients, those who developed microalbuminuria were older than those remained normoalbuminuria (68.3 ± 12.4 vs 62.7 ± 11.5 years, $P < 0.05$). Patients with poor blood glucose control ($HbA1c \geq 7.0$ %) had a greater chance of worsening renal parameters.

ADA suggested the use of low dose aspirin therapy as a primary prevention strategy for diabetic subjects at increased cardiovascular risk [2]. In the present sample

it was reflected, showing that a single drug alone cannot make a difference and requires multifactorial intervention. ADA recommended ACEI or ARB as the treatment of choice for HTN in diabetic patients and the therapeutic goal of HbA1c was less than 7.0 % because it was associated with the preservation of renal function [2, 3]. Rifkin et al. found that microalbuminuria was associated with an over 50 % increase in mortality risk in the elderly. In cases where microalbuminuria combined with chronic kidney disease, there was a nearly 4-fold mortality risk [4].

In conclusion, aspirin therapy, older age and hypertension are the risk factors of diabetic nephropathy. Good blood glucose control could conserve normoalbuminuria.

Conflicts of interest None

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