COMMENTS AND RESPONSES

Pro12Ala Polymorphism in the *PPARG* Gene Contributes to the Development of Diabetic Nephropathy in Chinese Type 2 Diabetic Patients

Response to Lapice et al.

Lapice et al. (1) confirmed the findings in Chinese (2) or Caucasian patients (3) on the association between the peroxisome proliferator–activated receptor (PPAR)-γ2 Pro12Ala and urinary albumin excretion rate (AER) in a large population with type 2 diabetic patients ($n = 750$) of Caucasian origin. Moreover, they observed that the Ala12 carrier showed significantly lower plasma urea and creatinine (Scr) and higher estimated glomerular filtration rate (eGFR) than the Pro12 carrier ($P < 0.05$ for each) in the study.

In our study, there were significantly elevated Scr and blood urea nitrogen [i.e., 84.0 (64.0–129.0) vs. 64.0 (55.0–78.0) μmol/l (2) and 6.3 (5.1–9.1) vs. 5.6 (4.7–6.9) mmol/l, $P = 0.000$ for each], declined eGFR (77.6 ± 45.0 vs. 100.6 ± 29.7 ml/min/1.73 m^2, $P = 0.000$), and Pro12Ala carriers (6.2% vs. 12.8%, $P = 0.003$) in diabetic nephropathy patients when compared with nondiabetic nephropathy patients ($P < 0.01$ for each) (2). In addition, except for the Pro12Ala patients who had lower AER levels than the Pro12Pro patients [9.22 (6.2–15.6) vs. 173.0 (69.9–691.1) mg/24 h, $P = 0.000$] (2), Pro12Ala patients had lower Scr and blood urea nitrogen trends [i.e., 68.0 (57.0–104.0) vs. 76.0 (60.0–105.8) μmol/l (2) and 6.0 (4.9–8.1) vs. 6.2 (4.8–8.7) mmol/l] and higher eGFR trend (87.2 ± 43.0 vs. 84.4 ± 42.3 ml/min/1.73 m^2), but the differences were not statistically significant ($P > 0.05$ for each). Similarly, the occurrence of subjects with mildly impaired renal function (i.e., GFR <60 ml/min/1.73 m^2) has a lower tendency in patients with the Pro12Ala than that of the Pro12Pro genotype (24.1% vs. 28.0%, $P = 0.533$; odds ratio 0.82 [95% CI 0.44–1.53]); however, no statistical significance was observed.

Previous studies reported that the Ala12 allele was resistant to type 2 diabetes in Caucasians but not in Chinese, thus reflecting an ethnic genetic heterogeneity of type 2 diabetes at this locus (4). No difference in Scr between Ala12 carriers and noncarriers was reported in Caucasian type 2 diabetic patients (3). Jorsal et al. (5) reported that the Ala12 allele is associated with enhanced decline in GFR ($P = 0.04$) in Danish Caucasian type 1 diabetic patients.

In conclusion, except for AER, the Pro12Ala polymorphism of PPAR-γ2 is not significantly associated with the overall better renal function in Chinese type 2 diabetic patients with and without diabetic nephropathy.

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L.L. researched the data, wrote the letter, and reviewed and edited the letter; T.Z. researched the data; F.W. reviewed the letter; N.W. reviewed the letter; and M.L. researched the data.

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