Angiotensin-converting enzyme gene polymorphism and stroke in type 2 diabetic patients in Taiwan

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摘要

Abstract

Background The effect of traditional risk factors on the association between angiotensin-converting enzyme (ACE) gene insertion/deletion (I/D) polymorphism and stroke was rarely studied previously. We investigated such effect in Taiwanese type 2 diabetic patients. Materials and methods A total of 872 (422 men and 450 women) patients aged 63·5 (SD: 11-6) years were recruited. Among them, 92 cases (48 men and 44 women) had stroke. Polymerase chain reaction was used to classify the genotypes as II, ID and DD. Analyses were performed in separate sexes. Results The adjusted odds ratios for stroke for ID vs. II and DD vs. II were 0·837 (0·413-1·697) and 1·778 (0·596-5-300), respectively, for men; but were 1·700 (0·824-3·505) and 3·706 (1·375-9·985), respectively, for women. In models assuming recessive (DD vs. II + ID), dominant (DD + ID vs. II) and additive (II = 0, ID = 1 and DD = 2) transmission, none of the odds ratios was significant for men; but were all significant for women: 2·784 (1·137-6·818), 1·996 (1·006-3·962) and 1·877 (1·155-3·050), respectively. In models using patients without risk factors (hypertension, obesity, smoking or dyslipidaemia) as a referent group and comparing them to patients with the risk factor and with ID/II, and with DD genotypes, all models (except for smoking) favoured an increasing trend of risk with patients having the risk factor and DD genotype at the highest risk in women. Similar trends for hypertension and dyslipidaemia were also observed in men. Conclusion Traditional risk factors play an important role in the association between the ACE genotypes and stroke. Patients with DD genotype and having traditional risk factors are at the highest risk.

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