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Association of beta 2 adrenoceptor gene polymorphism in Malaysian hypertensive subjects

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Sympathetic nervous system plays a major role in blood pressure regulation. Beta (β) adrenoceptor gene polymorphisms have been associated with hypertension in different populations with conflicting results. We examined the association of three common polymorphisms Arg16Gly, Gln27Glu and Thr164Ile of β2 adrenoceptor gene in Malaysian hypertensive subjects. Ethical approval was obtained from the ethics committee of Faculty of Medicine and Health Sciences, University Putra Malaysia.* A total of 160 of each cases and control subjects were recruited. Systolic Blood Pressure (SBP), Diastolic blood pressure (DBP) and anthropometric measurements were obtained from each subject. Biochemical analysis of lipid profile was measured using auto analyzer. DNA samples were extracted from blood and buccal cells. Genotyping was done by PCR-Restriction Fragment Length Polymorphism. SBP, DBP, Body Mass Index and biochemical analysis were significantly different between cases and controls ($p<0.05$). Genotyping of Arg16Arg, Arg16Gly and GLy16Gly among cases were 22.5%, 70%, and 7.5% respectively compared to 33.1%, 63.1%and 3.8% respectively among controls. The genotype frequencies of Gln27Gln, Gln27Glu and Glu27Glu among cases were 41.1%, 50% and 1.9% respectively compared to 77.5%, 20.6% and 1.9% respectively among controls. In this study Gln27Glu polymorphism was significantly associated with Malaysian hypertensive subjects ($p<0.05$). This study is the first study to suggest that Gln27Glu polymorphism of β2 adrenoceptor could be a risk factor associated with hypertension among Malaysians.

Biography

Komara Makanko has completed a Master program in the field of Genetics from the faculty of medicine and health sciences, University of Putra Malaysia. She is a member of the Genetics Research Group (GRP) University Putra Malaysia. She has published two papers the field of genetic in complex diseases.

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