

Analysis of human bradykinin receptor gene and endothelial nitric oxide synthase gene polymorphisms in end-stage renal disease among Malaysians

Abstract

The aim of this study was to determine the association of the c.894G>T; p.Glu298Asp polymorphism and the variable number tandem repeat (VNTR) polymorphism of the endothelial nitric oxide synthase (eNOS) gene and c.181C>T polymorphism of the bradykinin type 2 receptor gene (B2R) in Malaysian end-stage renal disease (ESRD) subjects. A total of 150 ESRD patients were recruited from the National Kidney Foundation's (NKF) dialysis centers in Malaysia and compared with 150 normal healthy individuals. Genomic DNA was extracted from buccal cells of all the subjects. The polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method was carried out to amplify the products and the restricted fragments were separated by agarose gel electrophoresis. Statistical analyses were carried out using software where a level of $p < 0.05$ was considered to be statistically significant. The genotypic and allelic frequencies of the B2R gene (c.181C>T, 4b/a) and eNOS gene (c.894G>T) polymorphisms were not statistically significant ($p > 0.05$) when compared to the control subjects. The B2R and eNOS gene polymorphisms may not be considered as genetic susceptibility markers for Malaysian ESRD subjects.

Keyword: Bradykinin type 2 receptor (B2R) gene; Endothelial nitric oxide synthase (eNOS) gene; End-stage renal disease (ESRD); Polymorphism