

## **Association of insertion deletion polymorphism of alpha adrenoceptor gene in essential hypertension with or without type 2 diabetes mellitus in Malaysian subjects.**

### **Abstract**

An insertion/deletion (I/D) polymorphism of Alpha2B-Adrenoceptor (ADRA2B) gene located on chromosome 2 has been studied extensively in related to cardiovascular diseases. The main aim of the present study was to examine the potential association of D allele frequency of I/D polymorphism of ADRA2B gene in Malaysian essential hypertensive subjects with or without type 2 diabetes mellitus (T2DM). This study includes 70 hypertensive subjects without T2DM, 65 hypertensive subjects with T2DM and 75 healthy volunteers as control subjects. Genotyping of I/D polymorphism was performed by conventional PCR method. There was significant difference found in age, body mass index, systolic/diastolic blood pressure and high density lipoprotein cholesterol level between the case and control subjects. DD genotypic frequency of I/D polymorphism was significantly higher in hypertensive subjects (42.84% vs. 29.33%;  $P=0.029$ ) and in hypertensive with T2DM subjects (46.15% vs. 29.33%;  $P=0.046$ ) than control group. D allele frequency was higher in hypertensive group (67.41%) than control subjects (52.67%). However, no significant difference was found between the three genotypes of I/D polymorphism of ADRA2B gene and the clinical characteristics of the subjects. The result obtained in this study show D allele of ADRA2B gene was associated with essential hypertension with or without T2DM in Malaysian subjects.

**Keyword:** Alpha2B-adrenoceptor; Essential hypertension; Insertion/deletion polymorphism; Type 2 diabetes mellitus