

ABSTRACT

THE INFLUENCE OF FOOD PATTERN AND POLIMORFISM of eNOS3 GENE TO NITRIC OXIDE PLASMA LEVEL IN HYPERTENSION PATIENTS IN MINANGKABAU ETHNICITY.

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Hypertension is one major public health problem in Indonesia and other countries in the world. The main factor that involves in the pathophysiology of essential hypertension is the interaction between genetic and environmental factor. eNOS 3 gene is one of the important genes which is related to the high prevalence of HET. This gene expresses the NOS enzyme which regulates the synthesis of NO in human body. This enzyme causes vasodilatation, which decreases peripheral resistant and blood pressure.

A research has been made based on cross sectional study on hypertension patients and those with normal blood pressure in the range of 30-65 years old. The main purpose of this research is to evaluate the influence of an antioxidant consumption on eNOS3 gene Glu298Asp allele expression in hypertension patients in Minangkabau ethnicity. Around 130 people has taken as sample and been interviewe about their eating habits, eNOS3 gene examination and NO plasma level. The data gained, was later analysed with t-tes test and chi-square test and finally presented in the form of table, picture and narration.

Polimorfisme eNOS3 gene allele Glu298Asp are homozygote GG and heterozygote GT, allele -786T>C are homozygote TT, CC and heterozygote TC and intron 4a4b are intron 4a, intron 4b and intron 4a4b. NO plasma level in hypertension case was 26.91 ± 15.40 uMol/L and in a person with normotension was 25.79 ± 15.04 uMol/L. No relation ship was found between eNOS3 polymorphisme with NO plasma level. There was significant relation ship between the consumption of omega 3 plasma, vitamin E and carotenoid with NO plasma level in hypertension patients with GT polymorphisme heterozygote and saturated fat consumption and retinol in control group with GT polymorphisme heterozygote.

NO relation ship between polimorphisme eNOS3 gene allele Glu298Asp, -786T>C and intron 4a4b with hypertension. NO plasma hypertension and normotension patients are low normal. There are relation ship between omega-3, carotenoid and vitamin E with NO plasma level in hypertension patients with GT polimorfisme.

Key words: essential hypertension, eNOS3 gene and nitric oxide plasma level.