ABSTRACT

Polymorphism Insulin Reseptor Gene Exon 22 In Diabetes Melitus Type 2

The World Health Organization (WHO) has estimated that Indonesia ranks fourth in terms of diabetes sufferers in the world. In 2000, 8.4 million Indonesians suffers from diabetes, the figure is expected to increase to 21.3 million in 2030. Indonesia, with population of more than 230 million, had the fourth biggest number of diabetes sufferers after China, India, and United States. Patients with diabetes usually have insulin resistance that condition caused by dysfunction of the insulin receptor in patients with type 2 diabetes. This research focused on the insulin receptor gene in patients with type 2 diabetes mellitus. This research is exploratory research and sample of this research was carried out in Haji Surabaya Hospital and Sosodoro Djatikoesoemo Bojonegoro Hospital. The respondents who had signed inform consent, their blood was taken 3 ml and placed in EDTA vacutainer then performed to DNA analysis. DNA was amplified using polymerase chain reaction with the primer for the insulin receptor gene, F-hINSR-INT21 5’-GAC TCA CCC TGT AGG ACG CCT TC -3’ and R-5’hINSR-EX22 CTC CAC AGT TAA GTT CAG ATC C -3’. The results of this research used a descriptive analysis in accordance with the study of molecular biology. The insulin receptor gene in patients with type 2 diabetes mellitus have difference with a data in gene bank for the insulin receptor. Nucleotide A change to G nucleotide, this change does not alter the phenotype of amino acid function, but can be genetically inherited.

Keywords: insulin receptor, diabetes mellitus, gene