ORIGINAL ARTICLE

THE ASSOCIATION OF POLYMORPHISM PROMOTER VEGF PROMOTER GENE POLYMORPHISM AND VEGF SERUM LEVEL WITH THE TYPE OF AGE-RELATED MACULAR DEGENERATION

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ABSTRACT

Introduction: *One of the potential genetic links to Age-related macular degeneration (AMD) is vascular endothelial growth factor (VEGF). The aim of this study was to investigate the association of polymorphism promoter VEGF gene and VEGF serum level with the type of AMD.* ***Methods:*** *Genomic DNA was extracted from peripheral blood of 66 samples, consist of wet and dry AMD, and age-matched controls. DNA was subjected to polymerase chain reaction amplification at the position -460 coupled with the restriction fragment length polymorphism. VEGF serum level was measured by Enzyme-linked Immunosorbent Assay.* ***Results:*** *The polymorphism promoter VEGF gene demonstrated significant association with the type of AMD (p=0.004, OR=3.1 95% CI 1.1-8.6) and the risk for increasing VEGF serum level (p=0.011, OR=3.2 95% CI 1.1-8.9). Despite there was no significant association between dry and wet AMD with VEGF serum level (p=0.081), but this study revealed significant increased of VEGF serum level in AMD patients, compared to those in control's serum (p<0.001). Finally, there was co-association between polymorphism and VEGF level with the type of AMD (p<0.001).* ***Conclusion:*** *This study reveals the significant association between promoter VEGF gene polymorphism and VEGF serum level with the type of AMD of Indonesian patients.*

Keywords: AMD, VEGF gene polymorphism; VEGF serum level.