Apolipoprotein E gene polymorphism is not a strong risk factor for diabetic nephropathy and retinopathy in Type I diabetes: case-control study

ABSTRACT

Diabetic retinopathy is not a known genetic susceptibility for Type I diabetes patients, regardless of whether APOE gene polymorphism is present. The relationship between apoelo-related genes and diabetic nephropathy may be weak or moderate, but not very strong.

INTRODUCTION

The Apolipoprotein E (ApoE) gene is the major gene for glycosylation of insulin-like growth factor. The risk of diabetes mellitus is estimated to be 1 in 6,500 people worldwide, and the majority of these cases are diagnosed in individuals who have not had diabetes for many years. However, it is also estimated that approximately 15% of the population have ApoE and more than half of these individuals are prediabetes (diabetes with elevated blood glucose levels). ApoE is also associated with a variety of other diseases including type 2 diabetes, obesity, hypertension, and multiple sclerosis (MS). ApoE is also associated with the development of retinopathy, which is a progressive degenerative Diabetic nephropathy is a significant genetic factor in the development of Type I diabetes patients, as evidenced by both familial and epidemiological research. Apolipoprotein E (apoE) was identified as primarily involved in lipolipid metabolism and has been linked to the risk of micro- and macrovascular complications in diabetic patients. The APOE gene is polymorphic, with three common alleles, E2, E3, and E4, which encode three major isoforms. This means that six common genotypes are associated with this variant. Those with apoE2 have higher triglyceride levels and lower cholesterol than those with the corresponding apex3. Consequently, individuals with both APS genes often experience elevated plasma cholesterol levels. Apolipoprotein E polymorphism may alter the metabolic pathways of lipolipids in diabetic patients. Some recent research has suggested that this polychrome may be responsible for the development of microvascular complications, which could lead to diabetical nephropathy. The objective of this research was to determine the role of APOE gene polymorphism in the development of diabetic nephropathy and retinopathy in Type I diabetes patients.

CONCLUSION

Remarkable conclusions The APOE gene polymorphism was not linked to any genetic susceptibility for diabetic retinopathy in Type I diabetes patients, as per the present study. The association between a family of exemplified genes and diabetical nephropathy may be weak or moderate, but not strongly linked.