Indian Journal of Experimental Biology
Vol. 63, April 2025, pp. 285-290
DOI: 10.56042/ijeb.v63i04.11143

Early-onset myocardial infarction may be related to ApoE and CYP2C19 variations

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Received 15 May 2024; revised 31 January 2025

Myocardial infarction (MI) is among the leading causes of death in the world. While most MIs occur over the age of 65, 5-10% are detected in young individuals. This condition is known as early-onset MI. Since it is common in every population, there is a processing need of identifiying the causative factors of the disease. Genetic factors have an important effect for early-onset MI. Therefore, this study aimed to investigate the relationship between *ApoE* and *CYP2C19* variations with early-onset MI. Thirty early-onset MI patients and 30 healthy individuals were included in the study. After DNA was isolated, *CYP2C19* and *ApoE* variations were investigated by qPCR. Results were evaluated statistically. ε2 variant of *ApoE* and *CYP2C19*2* were found statistically high in control and patient group, respectively. Hypertension, diabetes mellitus, smoking, triglyceride, LDL, total cholesterol, BMI and fasting blood glucose levels were statistically high in patient group. Some statistically significant associations were detected between hypertension, fasting blood glucose, LDL, HDL, BMI, total cholesterol and triglyceride levels with ε2; and between ε4 and *CYP2C19*2* variants. *CYP2C19*2* variant may have a strong association with early-onset MI and ε2 may have a protective role for the disease. It was considered that ε4 may affect the occurrence of the disease according to the increase in some blood parameters. In conclusion, screening of *ApoE* and *CYP2C19* variations may provide information about early-onset MI.

Keywords: *CYP2C19*, *ApoE*, MI, qPCR