

Association of Hyperhomocysteinemia with Acute Myocardial Infarction in Iraqi Patients

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Background: Coronary artery disease (CAD) and its major manifestation acute MI (AMI) are the most common causes of death worldwide. Hyperhomocysteinemia (HHcy) has been recently recognised as a new emerging cardiovascular risk factor mediating in development of CAD risk. HHcy causes endothelial dysfunction, resulting in local thrombosis and subsequent ischaemia. However, the role of HHcy in increasing the risk of CAD still remains controversial and elusive.

Aim: The major aim of this study is to determine the association between HHcy with increased risk of CAD in patients with AMI in a Kurdish population. Its role in development of CAD could be pivotal.

Design and method: In this case-control study, a total of 74 patients with AMI and a control group of 74 age- and sex-matched individuals

were enrolled. Serum tHcy level was measured by enzymatic immunoassay. HHcy was defined as Hcy>15µmol/l.

Results: The prevalence of HHcy was significantly higher in AMI patients (68.9%) than in the control group (29.7%; p<0.0001). The mean serum tHcy level was higher in AMI patients than that in control group (22.8 µmol/l and 15.1 µmol/l, respectively, p<0.0001). Moreover, the mean tHcy level for the male patients were about 7 µmol/l greater than those for the female patients.

Conclusion: HHcy is strongly associated with increased risk of CAD independent of conventional risk factors such as hyperlipidemia, Diabetes, hypertension, smoking and family history of premature CAD factors. This study concludes that HHcy is a new independent cardiovascular risk factor of CAD and AMI. ■