a study on autoantibodies to phospholipids and protein c in acute myocardial intarction

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Acute myocardial infarction is a massive public health problem which is considered to be the single most important cause of premature death especially in developed world, and the incidence of condition increasing rapidly in many of the developing countries including Egypt, because of the lot of changes which occurred in the life style. Anticardiolipin antibodies, is one of the autoantibodies to negatively charged phospholipids, which is long been associated with thrombotic events occurring at any site of the vascular tree arterial, venous, or capillary and at any organ system, it may occur as a primary condition or may associate ST 17or other autoimmune diseases as well as other various conditions, although thrombosis is the main features associated with their presence, reports on its relation to MI have been mentioned infrequently. Protein C is a vitamin K dependent plasma protein which plays a critical role in the regulation of haemostatic system, and in order to function it must he converted to active serine protease the APC, its deficiency have been identified as one of the causes contributing in venous thrombocmbolism, however its relation to arterial thrombosis is not resolved yet. This study was conducted over 40 cases of acute myocardial infarction classified according to age into study group 1 less than 45 years and study group 2 more than 45 years, another 40 apparently healthy subjects were selected to serve as a reference groups, they were also classified according to the age into reference group 1 less than 45 years and reference group 2 more than 45 years, all study and reference groups were subjected to the following :1-Full clinical examination.2-Electrocardiogram (ECG).3-Laboratory investigations include :-Creatine phosphokinase (CK).-Lactate dehydrogenase (LDH).-Serum aspartate transaminase (AST).-Fasting blood sugar (FBS).-Total serum cholesterol.- Serum triglyceride (T.G.).-Low density lipoprotein cholesterol (LDL).-High density lipoprotein cholesterol (HDL).-Anticardiolipin antibodies (ACA) : IgG- Protein C activity. IgMThe results of this study shows that 20%of study group and also study group 2 were positive to IgG-ACA with a high positive titres and 5% of study group I and 15% of study group 2 were positive to IgM-ACA, with a medium positive tires. Also 20% of reference group I and 15% of reference group 2 were positive for IgG-ACA. but with a medium positive titres and 5% of reference group 2 were positive to IgM-ACA with a medium positive titres. Subjects in study group 1 and study group 2 positive for ACA, also had other risk factors known to predispose to MI,smoking was the most prevalent risk factor in study group 1, while hypertension and DM were the most prevalent for study group

2, also laboratory investigations done to evaluate the lipid status showed that they had also elevated total cholesterol, LDL and decreased HDL levels, compared to their reference group. The presence of ACA in the early stage of acute myocardial infarction suggests that it precedes the clinical event and that the relation is direct. ACA should be considered one of the risk factors predisposing in the occurrence of coronary thrombosis, since it contributes in the presence of the resulting hypercoagulable state, and since a positive test in survivors of a first myocardial infarction specially the younger age group, is not uncommon and generally indicates immunological aberrations and increased risk of cardiovascular recurrences.APC deficiency although being one of the important risk factor for venous thrombosis but its relation to arterialthrombosis is not settled yet, however, the finding of this study showed that the APC deficiency was not associated with the increased risk of acute myocardial infarction.These findings renders the cardiolipin determination purposeful, with special consideration to the level of ACA-IgGand IgM. The proper estimation of ACA IgG and IgM may improve the mode of treatment and the rate of recurrence if the positive high titres subject started to receive the proper management for anticardiolipin bodies.