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Lipid Profile can Predict the Future Cardiac Events in Absence of Troponin Test

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Diagnosis of acute coronary syndromes and cardiac events in the early stage of its onset is important in the line of treatment. The invention of highly sensitive and specific immunoassays for myocardial proteins such as cardiac troponin I (cTnI) had made it possible. However troponin assay indicates the cardiac events only after its onset or after cardiac tissue necrosis has been occurred. Traditionally such high risk patients were earlier identified by using lipid profiles. The future risk and prevention of such coronary syndromes could be more beneficial as it will provide enough time to recover the patients from such irreparable damage.

In this study we proposed to study the usefulness of traditional lipid profile levels in screening subjects who had developed chest pain due to cardiac event as indicated by a positive troponin I test. In this retrospective study data of the 740 patients presented to the emergency department with symptoms of cardiac ischemia who underwent both Troponin and lipid profiles tests were compared with the lipid profiles of 411 normal healthy subjects (controls). The Troponin was detected qualitatively when a specimen contains troponin I (cTnI) above the 99th percentile (TnI >0.5 ng/ml). The Total cholesterol (TC), High density lipoproteins cholesterol (HDL), Very low density lipoproteins (VLDL), and Triacyl glycerol levels (TG) were also analyzed and low density lipoprotein level (LDL) was calculated using Friedewald's formula. Patients with chest pain and positive troponin test (with confirmed cardiac event) were found to have significantly elevated levels of TC, TG, LDL and significantly reduced HDL levels when compared to the patients who experienced only chest pain (negative troponin) and healthy controls. Traditional lipid profile levels is still can be used in screening populations to identify the subjects with high risk of developing cardiac event which is identified by highly sensitive and specific positive troponin test.