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Short Communication

CPK-MB or Troponin I - Marker for Acute Myocardium Infarction: Which is Better?

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Acute myocardium infarction (AMI or MI), also known as heart attack is a medical emergency situation in which blood supply to one of the part of heart is interrupted due to breach of a vulnerable plaque. This results in ischemia i.e. shortage of oxygen to heart, leads to its death. It is one of the leading causes of death among men and women globally [1]. The important risk factors responsible for AMI are high concentration of Low density lipoprotein (LDL) and low concentration of High density lipoprotein (HDL), smoking, alcohol, less exercise, obesity, high salt diet, high blood pressure, diabetes and stress [2]. Nowadays, smoking habit youngsters also increased the risk of young stroke in these patients [3]. In AMI, symptoms onset gradually, lasts for several minutes but not occurs suddenly. The chief symptom is chest pain also known as angina pectoris occurs due to squeezing or tightening of heart muscle. The chest pain mostly radiates to left arm but it can also radiates to neck, lower jaw, back, right arm and even to epigastric region [4]. Other symptoms are dyspnea, left ventricular failure (LVF), weakness, nausea, vomiting, light headedness, and palpitations. Loss of consciousness (LOC) or in a severe form death can also occur in MI [5]. To diagnose AMI, cardiac markers or proteins are available in the market as kits. Cardiac markers are found in blood when released from heart tissues damage. Until 1980s, Serum glutamic oxaloacetic transaminase (SGOT) and Lactate Dehydrogenase (LDH) enzyme assays were used to detect cardiac injury. But disproportionate increase in the level of MB subunit of Creatine Phospho-kinase (CPK) enzyme and Troponin I or T subunits are the diagnostic biomarkers for AMI nowadays. These subunits are very specific to the cardiac injury and may foretell the occurrence of AMI in the near future accurately [6]. These tests are done to detect AMI (a) when patients are showing the symptoms of dyspnea, chest pain, sweating, abnormal ECG etc. (b) to check the heart injury after bypass surgery (c) to detect whether the thrombolytic therapy has successfully restores the flow of blood in the blockade artery [4]. Both the tests are required for the diagnosis of AMI and to see the diagnosis and to see the prognosis of the condition as cardiac Troponin I elevated within 6 hours and remains elevated for 10 days, on the contrary, CPK-MB level rises within 6 - 12 hours and comes back to normal within 48 hours [7]. So fresh attack will be evaluated by serial CPK-MB and Troponin I is a better early indicator but it will not be able to detect the fresh infarction.

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Conflict of Interest

None.

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