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# Blood levels of carnitine and acylcarnitine in patients with acute myocardial infarction

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## Abstract

Earlier studies have suggested an important role of carnitine pathway in cardiovascular pathology. We compared the carnitine and acylcarnitine profiles of 65 AMI patients (26 STEMI and 39 NSTEMI), 28 patients with chest pain and 154 normal controls. The levels of carnitine and acylcarnitines in the blood spots were determined using LC-MS/MS. The levels of short- and medium-chain acylcarnitines were significantly higher in patient groups. Among the long-chain acylcarnitines, C14:2 and C16:1 levels were significantly increased in STEMI and NSTEMI. However, C18:2 was significantly decreased in all the patient groups. The ratio of free carnitine to short-chain or medium-chain acylcarnitines was significantly decreased in STEMI, NSTEMI and chest pain patients however a significant increase was observed in the ratio of carnitine to long-chain acylcarnitines in all the patient groups as compared to normal controls. (S*upported by National Plan for Science and Technology, King Saud University Project No. 08-BIO571-02*).