



Cardiac Troponin I Used in Subclinical Carotid Atherosclerosis

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Introduction

Measurement of cardiac troponin is important within the diagnostic workup of patients with suspected acute coronary syndrome and therefore the advent of high sensitivity (hs-) cardiac troponin assays permits safe and swift diagnosis of acute myocardial infarct. More recently, evidence is amassing for the utilization of cardiac troponin measured with hs-assays in predicting incident disorder like myocardial infarct, coronary failure, fibrillation, and ischaemic stroke. Concentrations of cardiac troponin also increase after ischaemic stroke, causes of which are largely multifactorial. Atherosclerosis may be a chronic disease affecting large and medium sized arteries of the whole body, principally leading to ischemia of the brain, heart and extremities. Non-invasive imaging procedures like carotid ultrasonography and computer tomography may identify subclinical atherosclerosis and convey prognostic information beyond established risk prediction models. Of the 2, carotid ultrasonography could be considered the well-liked initial screening strategy, being both safe and radiation free. In subjects recruited from the overall population, carotid atherosclerotic burden is related to increased concentrations of cardiac troponin I (cTnI) measured with contemporary assays. Concentrations of hs-cTnI also appear to be related to reduced large vessel vascular function. Additionally, detectable concentrations of hs-cardiac troponin T

(hs-cTnT) are related to the presence of carotid plaques in patients with systemic lupus erythematosus and with vulnerable coronary lesions in patients with stable angina. Established cardiovascular risk factors like DM and hypertension are related to all sorts of atherosclerosis, also as increased concentrations of cardiac troponin, possibly providing a link between subclinical atherosclerosis and low-grade cardiac troponin release. No studies have assessed the associations between cTnI measured with a really high sensitivity assay and subclinical carotid atherosclerosis within the general population. Given correlations between cardiac troponin concentrations and indices of carotid atherosclerosis, this information could prove valuable to guide early preventive interventions in subjects with subclinical disease. Accordingly, in subjects without previous manifestation of atherosclerotic disorder, we hypothesized that concentrations of hs-cTnI are related to subclinical carotid atherosclerosis, which concentrations of hs-cTnI provide incremental information to established cardiovascular risk factors in assessing subclinical carotid atherosclerosis. ultrasound images of the proper and left extracranial arteries (common carotis, internal and external carotid artery) were recorded in both long- and short-axis views on the GE Vivid E9. We assessed three different carotid ultrasound indices of subclinical atherosclerosis; quantitative carotid plaque burden (carotid plaque score).

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Received June 2, 2021; Accepted June 16, 2021; Published June 23, 2021

Citation: Hunter S (2021) Cardiac Troponin I Used in Subclinical Carotid Atherosclerosis. *Biochem Physiol* 10: 321.

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