

The dialectical law between coronary artery disease and stroke recurrence

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Abstract

In this issue of Neuroendocrinology Letters Kováčik *et al.* reported that coronary artery disease is not associated with stroke recurrence. Although the data were analyzed by statistical methods and the analysis was extremely encouraging, the conclusion should be interpreted with caution.

In this issue of Neuroendocrinology Letters Kováčik *et al.* reported that coronary artery disease is not associated with stroke recurrence (Kováčik *et al.* 2012). Although the data were analyzed by statistical methods and the analysis was extremely encouraging, the conclusion should be interpreted with caution.

First acute coronary artery diseases increase inflammation in atherosclerotic plaques at a distance. After an ischemic event, atherosclerotic plaques grew faster. During progression of atherosclerosis, myeloid cells destabilize lipid-rich plaques in the arterial wall and cause their rupture, thus triggering stroke. Survivors of acute coronary syndromes have a high risk of recurrent stroke events. The systemic response to ischemic injury aggravates chronic atherosclerosis (Dutta *et al.* 2012).

Second in TOAST classification of subtypes of acute ischemic stroke acute ischemic stroke is classified into five subtypes: Large artery atherosclerosis, penetrating artery disease, cardiogenic stroke, other etiologies and undetermined etiology (Adams *et al.* 1993). Large artery atherosclerosis subtype of patients will have clinical and brain imaging findings of either significant stenosis or occlusion of a major brain artery or branch cortical artery presumably due to atherosclerosis. Car-

diogenic hypoperfusion account for a large ratio in the underlying mechanism for ischemic stroke recurrence of intracranial or extracranial large artery atherosclerosis.

Third conditions known to increase the odds of suffering from a coronary artery disease namely diabetes mellitus, hypertension, hypercholesterolemia, cigarettes smoking and obesity are also stroke risk factors. These risk factors equally play an important role in stroke recurrence.

In summary, this study design might limit the merits of their finding. stroke recurrence and coronary artery diseases are both complicated problems, therefore this lead to selection bias. In my opinion we need to stratify ischemic strokes and explicit whether the recurrence of them are related to coronary artery diseases one by one.

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