

The dialectical law between coronary artery disease and stroke recurrence. Author reply

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We thank Drs Zhou, Zhu, Wu and Fang for their interest in our article regarding association between coronary artery disease and recurrence of ischemic stroke.

Firstly, regarding the increase of inflammation in atherosclerotic plaques after acute coronary artery event, it should be stressed that all patients in the reported study suffered from acute ischemic stroke and, some of them also from chronic, but not from an acute coronary artery disease. None of the patients experienced acute coronary artery event within the last 30 days before the onset of ischemic stroke.

Secondly, we agree with Drs Zhou, Zhu, Wu and Fang that the use of TOAST classification of stroke subtypes would be beneficial. Nevertheless, this was not performed due to relatively small number of included patients, as mentioned among study limitations.

Drs Zhou, Zhu, Wu and Fang suggest that watershed type of stroke, as result of ischemic heart disease, might contribute to association between ischemic heart disease and recurrence of stroke. Incidence of watershed type of stroke is relatively low, approximately 10% (Torvik 1984). None of patients, included in the study, suffered from cardiac failure, which could be theoretically considered the cause of cardiogenic hypoperfusion in patients with stenosis of extracranial or intracranial arteries. As reported, the occurrence of carotid stenosis > 50 % was similar in subgroups of patients with the first (27.6 %) and with recurrent (31.8 %) stroke and, also the occurrence of atrial fibrillation, representing the most common cause of cardioembolism, was similar in particular subgroups (28.6 versus 29.4 %).

Thirdly, we agree that coronary artery disease and ischemic stroke share similar risk factors. Nevertheless, as shown in previous large studies, only the presence of atrial fibrillation and diabetes

mellitus represents the risk factor for stroke recurrence (Hier *et al.* 1991, Lai *et al.* 1994; Sacco *et al.* 1994; Hankey *et al.* 1998; Gongora-Rivera *et al.* 2007; Nucifora *et al.* 2009;).

We also agree that the retrospective design of our study represents its limitation, as mentioned in the paper and, that further population based prospective studies with larger numbers of patients are needed to confirm our findings. Inclusion of high number of patients will enable not only to stratify ischemic stroke according to its subtype, but also to prospectively assess the onset of not only symptomatic, but also of asymptomatic coronary artery disease in these patients.

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