Response to Letter by Karapanayiotides et al

Drs Karapanayiotides and Bogousslavsky describe their experience using a new ultrasound method for measuring fibrous cap thickness in carotid atheromas. They report an association between mean carotid atheroma cap thickness measurements <650 μm and ipsilateral ischemic events.1 The authors mistakenly surmise that our suggestion that a carotid atheroma cap is probably thin when it measures <200 μm is based on MRI data. In fact, this is based on pathological studies of ruptured plaques. In our article,2 we extrapolated our experience based on coronary atheroma specimen studies (ie, 65 μm threshold for thin caps3) to carotid atheromas, arriving at an estimate of 200 μm. This estimate is also based on our analysis of carotid atheroma specimens. In our experience, the thickness of the cap of a carotid atheroma adjacent to a rupture site is 72±55 μm (mean±SD); 95% of caps measured <165 μm within a limit of only 2 standard deviations (R.V., unpublished data). Therefore, we use 165 μm to define thin caps for carotid atheromas. We contend that the thickness of a ruptured cap is beyond the resolution of MRI, as stated in our limitations;2 but also beyond that of ultrasound. Despite this limitation, evaluation of cap thickness by MRI has enabled discrimination of symptomatic from asymptomatic plaques both retrospectively4 in a manner similar to that described by Drs Karapanayiotides and Bogousslavsky using ultrasound, and prospectively.5 Furthermore, MRI is also capable of detecting juxtaluminal thrombus,6 which is an important marker of rupture that may be difficult to discriminate by ultrasound.

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