New MRI Brain Lesions as Surrogate Outcome for Carotid Stenting With and Without Cerebral Protection

To the Editor:

We read with great interest the article by Kastrup et al. The authors showed that the proportion of patients with any new ipsilateral diffusion-weighted imaging (DWI) lesion (49% versus 67%; \( P < 0.05 \)) as well as the number of new ipsilateral DWI lesions were significantly lower after protected than unprotected carotid angioplasty and stenting (\( P < 0.05 \)). Though the great majority of these lesions were asymptomatic, the number of new DWI lesions was significantly higher in patients who developed a stroke (median=7.5; interquartile range=1.5 to 17) than in patients who did not (median=0; interquartile range=1 to 3.25; \( P < 0.01 \)). The authors concluded that DWI could be a sensitive surrogate end point in future randomized trials of unprotected versus protected carotid angioplasty and stenting.

We have 2 comments for the results. In 2 recently published DWI studies, new DWI lesions after carotid stenting with protection device appeared in about 20% of patients, which is much lower than in abovementioned study by Kastrup et al. The other issue would be on the significance of DWI lesions. Although the number of DWI lesions was higher for patients with new stroke, the cut-off value was not clear. The presence or absence of DWI lesion was also not a good end point, as concurred with the study by Pinero et al, in which the appearance of new ischemic lesions were only significantly related to transient ischemic attacks. A study by Hauth et al had shown that DWI positive T2-weighted negative lesions were clinically silent and showed no manifestations at 6-month MR follow-up; whereas, in the 2 patients with DWI positive T2-weighted positive lesions, the lesions were still visible at 6-month MR follow-up. It would be of interest if Kastrup et al can provide the data on DWI positive T2-weighted positive lesions in the unprotected and protected carotid angioplasty and stenting groups. We believe that DWI positive T2-weighted positive lesions would be a better surrogate outcome for future randomized trials of unprotected versus protected carotid angioplasty and stenting.

Disclosures

None.

George Kwok Chu Wong, FRCSEd(SN)
Wai Sang Poon, FRCS
Division of Neurosurgery
Department of Surgery
The Chinese University of Hong Kong
Hong Kong, China


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