STROKE

Small-vessel disease is associated with poor long-term poststroke survival

Patients with ischemic stroke attributable to small-vessel disease (SVD) have poorer long-term survival than patients with stroke who do not have SVD, according to a study by Susanna Melkas and colleagues from Helsinki University Central Hospital, Finland. Poor survival in patients with SVD was associated with an increased risk of cardiac death.

“Patients with stroke but without SVD were shown to survive almost twice as long as patients with SVD”

A number of pathologies, such as large-artery atherosclerosis, cardioembolism and SVD, can underlie acute ischemic stroke. Most studies of poststroke mortality have indicated that patients with acute ischemic stroke and SVD have a good prognosis. The majority of these findings, however, have been derived from short-term follow-up studies. The long-term prognosis of patients with stroke and SVD has not been studied in detail; as a result, Melkas and colleagues sought to directly assess the long-term survival of these patients.

Melkas and colleagues obtained detailed medical histories for all 486 patients taking part in their study and each patient underwent neuropsychological and psychiatric examinations, as well as brain CT three months after the

ischemic attack. Presence of one of the traditional clinical lacunar syndromes and a lack of cerebral cortical dysfunction was suggestive of SVD. Over a 12-year follow-up period, long-term survival data and causes of death were obtained from Statistics Finland.

In this well-characterized ischemic stroke cohort, 63 patients were diagnosed with SVD and these patients were often current or former smokers. Furthermore, a history of cardiac disease was more common in patients with SVD than in patients with other types of stroke. Patients with stroke but without SVD were shown to survive almost twice as long as patients with SVD. Median survival was shown to be 4.3 years in patients with SVD and 7.9 years in patients with others types of stroke pathology. Data analysis revealed that SVD, stroke severity, advanced age, smoking and cardiac failure were all independent predictors of death. By contrast, previous stroke was not shown to be a predictor of poststroke mortality. Thus, “although stroke due to SVD seems to have a favorable short-term outcome, patients with this condition seem to have a more malignant long-term outcome compared to patients with other stroke subtypes,” explains Melkas.

Kaplan–Meier log-rank analysis revealed that patients with SVD had a higher risk of cardiac death (but not brain-related death) than patients with other stroke etiologies. Moreover, when data

relating to cardiac death were analyzed the researchers found that patients with SVD had shorter survival than patients with other causes of acute ischemic stroke.

In addition to overt stroke, SVD can present as silent infarcts or white matter changes. Melkas and colleagues plan to determine whether white matter changes are associated with stroke recurrence in the same patient population.

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