Abstract

**Background** Stroke is one of the third most common causes of death in Sweden and the most common cause of acquired disability in adults. Still there is much less research on stroke than other common diseases and we know little about the long-term prognosis.

**Aim** To describe the long-term prognosis (seven years) after ischemic stroke in patients below 70 years of age and to identify factors that are predictive of poor prognosis. Specifically to investigate whether mortality, rate of recurrent vascular events and/or functional outcome differ by etiologic subtype of ischemic stroke.

**Methods** The study is based on the Sahlgrenska Academy Study on Ischemic Stroke (SAHLSIS), which comprises 600 patients below 70 years of age with first-ever or recurrent acute ischemic stroke. Etiologic subtype of ischemic stroke was classified according to the diagnostic criteria in “Trial of Org. 10172 in Acute Stroke Treatment” (TOAST). Recurrent vascular events and death were registered for a period of seven years. All events were verified through medical records. Functional outcome after seven years was assessed with the modified Rankin Scale (mRS).

**Results** Patients with large-vessel disease (LVD) and cardioembolic (CE) stroke had a higher rate of recurrent stroke, recurrent coronary events and death, compared to patients with small-vessel disease (SVD) and cryptogenic stroke. LVD and CE stroke predicted death, recurrent stroke and coronary events, independently of age and traditional vascular risk factors. The proportions of patients with a poor functional outcome also differed significantly between the etiologic subtypes, with CE stroke and LVD showing the poorest functional outcome.

**Conclusion** Etiologic subtype of ischemic stroke predicts the long-term prognosis in young and middle-aged stroke sufferers, independently of cardiovascular risk factors. This knowledge may in the future provide a basis for more individual-based and thus more effective secondary prevention for younger stroke sufferers.

**Keywords** ischemic stroke, prognosis, TOAST, etiologic subtypes, recurrent events

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