Recurrent stroke
Risk factors, prevention and prognosis

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Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av medicine doktorsexamen framläggs till offentligt försvar i Hörsal Betula, Målpunkt L 0, Norrlands Universitetssjukhus fredagen den 2 december, kl. 13:00.
Avhandlingen kommer att försvaras på svenska.

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Abstract

Previous studies have reported heterogeneous results on predictors and rates of stroke recurrence. Secondary prevention following intracerebral hemorrhage (ICH) is complicated by the fact that ICH-survivors often have compelling indications for antithrombotic treatment (AT) (antiplatelet (AP) and/or anticoagulant (AC) treatment). In the absence of evidence from randomized controlled trials, there is a requirement for high-quality observational data on the clinical impact and optimal timing of AT in ICH survivors. The aims of this thesis were to determine predictors of stroke recurrence, to investigate to what extent ICH survivors with and without atrial fibrillation (AF) receive AT treatment, and to determine the optimal timing of such treatment. The population-based Northern Sweden MONICA stroke incidence register was used to assess rates and predictors of stroke recurrence. We found a 36% reduction in recurrence risk comparing the most recent cohort (2004-2008) to the first cohort (1995-1998). High age and diabetes were related to an increased risk of recurrent stroke. Riksstroke, the Swedish stroke register, linked with data from Statistics Sweden also added low income- and educational levels and single habitation to significant predictors of recurrence. The inverse relationship between socioeconomic status (SES) and recurrence risk did not vary between men and women and persisted over time. Riksstroke data on survivors of ICH, linked to other nationwide registers were used to investigate to what extent ICH patients were prescribed AC or AP therapy. Among AF patients, 8.5% were prescribed AC and 36.6% received AP within 6 months following ICH. Predictors of AC were less severe ICH, younger age, previous AC treatment, valvular disease and previous ischemic stroke. We found both an increasing proportion of AC treatment at time of ICH and, in AF patients, a secular trend of increasing AC use one year after discharge (8.3% in 2006 vs. 17.2% in 2011). The optimal timing of initiating AC following ICH in patients with AF was described through separate cumulative incidence functions for severe thrombotic and hemorrhagic events and for the combined endpoint "vascular death or non-fatal stroke". AC treatment was associated with a reduced risk of vascular death and non-fatal stroke in high-risk ICH survivors with AF, and there was no associated increased risk of severe hemorrhage. The optimal timing for AC seems to be around 7-8 weeks after ICH. In summary, stroke recurrence is declining in Sweden, but it is still common among stroke survivors. Age, diabetes, and low SES are associated with increased risk of recurrence. AC treatment in ICH survivors with concomitant AF seems to be beneficial, and the optimal timing of initiating treatment appears to be around 7-8 weeks, but these results need to be verified in future studies.