

## Supplementary methods

### Study population

We used data from the Korean National Health Insurance database, which has data on 97% of the South Korean population. We extracted all insurance claims data of patients aged >45 years who were hospitalized due to cerebral infarction (International Classification of Diseases, 10th revision, code [ICD-10 code]: I63) as the main or first subdiagnosis between 2007 and 2017. After considering the washout and follow-up periods, we excluded data from the years 2007 and 2017. Further, we sorted the claims data by procedure codes related to thrombectomy and determined whether a tissue plasminogen activator (tPA) was used during thrombectomy in these patients by referring to the Anatomical Therapeutic Chemical Classification System code B01AD02 or product code 653500661.

We classified the patients based on tPA use and the period when endovascular therapy (ET) was performed. It was estimated that off-label stent retrievers were used in South Korea between October and December of 2010. Even though its usage was officially approved, stent retrievers were not reimbursed by the South Korean National Health Insurance between May 2013 and July 2014. Therefore, we categorized the period when stent retrievers were rarely used as the "non-advanced MT period (January 2008 to December 2012)"; when we could not precisely identify stent retriever usage as the "transitional period (January 2011 to July 2014)"; and when the insurance claim data verified the frequency of stent retriever use as the "MT period (August 2014 to December 2016)."

This study was approved by the Institutional Review Board of the National Health Insurance Service Ilsan Hospital (NHIMC 2019-01-006).

### Outcome and covariates

Good outcomes were defined as discharge of patients to their homes after 30 days without significant issues such as death or rehospitalization. To screen patients with good outcomes, we tracked the insurance claims of patients who were discharged home after hospitalization for stroke treatment. To increase the reliability of good outcomes, we excluded patients who had died within 30 days of discharge and those who had claimed rehospitalization under either ICD-10 code I63 or I61

within 30 days of discharge because their prognosis was expected to be poor even if they experienced recurrence or were rehospitalized for rehabilitation.

Poor outcomes were defined as cerebral hemorrhage after the procedure, significant disability, and death. To identify the incidence rate of cerebral hemorrhage, we screened patients with insurance claims of ICD-10 code I61 as the main diagnosis, as the first subdiagnosis, or with a procedure code related to cerebral hemorrhage within 30 days of ET. The procedure codes used for screening were N0322 (burr Hole), N0333 (craniectomy), and S4756/S4622 (hematoma removal). We tracked deaths within 3 months and 1 year of ET using mortality data. In South Korea, the registration of disability is possible when at least 6 months have passed from the time of the stroke event, permitting patients to register for the cerebral injury disability. We further excluded patients who received ET in 2017 as we could not track their deaths within 1 year or their status of disability registration for cerebral injury from the selected data. Consequently, we analyzed patients and outcome variables by year and then conducted a comparison analysis based on the non-advanced MT, transitional, and MT periods.

We identified the comorbidities (hypertension, diabetes mellitus, dyslipidemia, and atrial fibrillation) that could increase the risk of stroke and, thus, affect the prognosis and the risk factors of patients from the insurance claims data prior to ET treatment and during hospitalization for ET. We analyzed the Charlson comorbidity index of patients to verify the influence of comorbidities on death.

### Statistical analysis

SAS version 9.4 (SAS Institute Inc., Cary, NC, USA) was used for data analysis. To compare descriptive statistics and the frequency of risk factors, one-way analysis of variance and the chi-square test were used. To compare the distribution of baseline covariates between the analysis periods, we used the standardized differences test. To confirm the difference in the inclinations of the outcome variables by year, we performed the Cochran-Armitage trend test. We performed a time-dependent Cox proportional hazard regression analysis to identify the risk factors for death and cerebral injury disability. To identify the factors related to home discharge, multiple logistic regression analysis was used. *P*-values of <0.05 for the two-sided tests were considered to indicate statistical significance.