Supplementary methods

Questionnaire

The questionnaire inquired about in-hospital logistical processes preceding application of intravenous thrombolysis (IVT) during the study period. Prior to the study, the questionnaire was approved by the Czech Stroke Society (formally Cerebrovascular Division of the Czech Neurologic Society). The questionnaire assessed prenotification, place of admission where patients are brought by an ambulance within hospital (computed tomography [CT] room, emergency department [ED] or out-patient office), number of transfers, drawing blood, and other examinations before initiation of thrombolytic treatment, imaging protocol before initiation of IVT (noncontrast computed tomography [NCCT] vs. NCCT and computed tomography angiography [CTA] vs. NCCT, CTA and computed tomography perfusion [CTP], respectively), and place where IVT is initiated (ED, on the CT table, etc.).

A transfer was defined as transport from one place in the hospital to another place even if places were close to each other (e.g., admission to ED and transport to CT scanner, even if CT scanner was within ED, was counted as one transfer). Blood draw in our study meant that a stroke team drew a blood sample without waiting for the results (if not indicated). Other examinations preceding initiation of IVT were defined as physical examination (except for neurological examination), performing electrocardiogram or urinary catheter insertion. A reorganization was defined as a change in steps preceding initiation of IVT assessed by the questionnaire.

All stroke centers in the Czech Republic were asked to participate by email. If a stroke center did not respond within 3 months, the email was re-sent. After an additional 3 months there was no response from four centers, and seven centers provided incomplete data. From these 11 centers, complete data were obtained after repeated requests and phone calls.

Safe Implementation of Treatments in Stroke registry

Data on door-to-needle time (DNT) for each patient were obtained from the Safe Implementation of Treatments in Stroke (SITS) registry. If a center reported a reorganization of acute stroke care, DNT was calculated separately for each time period. DNT was defined as the time from hospital arrival to the initiation of IVT. In the Czech Republic, DNT has been prospectively collected for each patient in different registries (SITS and Registry of Stroke Care Quality [RES-Q]) and also annually reported to the Ministry of Health as summary statistics.

The SITS-Monitoring Study was approved by the Ethics Committee of the Karolinska Institute in Stockholm. Analysis of the data from the SITS registry was approved by St. Anne's University Hospital Ethics Committee. Informed consent was not required because data were collected as part of an audit of clinical care.

Statistical analysis

The outcome for the analysis was DNT ≤20 minutes, this cutoff was chosen based on previously published data.[2,4-7] Relationships between DNT ≤20 minutes and all variables were analyzed using the Kruskal-Wallis test for numerical parameters and the chi-square test for nominal and categorical parameters. Centers were stratified according to place of admission and number of transfers. All statistical analyses were performed using IBM SPSS Statistics software version 23 (IBM Co., Armonk, NY, USA).