

Decompressive craniectomy in patients with aortic dissection and ischemic stroke [Abstract]

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The Global Stroke Outcomes Study: Preliminary Results

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Acute ischemic stroke (AIS) is a leading cause of death and disability worldwide. Thrombolysis, mechanical thrombectomy (MT) and surgical decompression are gold standard treatments for AIS due to large-vessel occlusion (LVO), yet access varies across regions. The Global Stroke Outcomes study provides an international overview of patient characteristics, care pathways, and outcomes for AIS due to LVO.

Methods: This prospective, multicenter, international observational study recruited sites globally through collaborations including Mission:Brain, Mission Thrombectomy, and regional networks. Centers completed site questionnaires and prospectively collected patient data using standardized case report forms over 30 days. All patients presenting with AIS due to LVO were included irrespective of treatment. Outcomes were discharge status, 30-day mortality, and treatments.

Results: Data from 21 sites and 282 patients were analyzed. Most sites were urban (90.5%) and tertiary centers (90.5%). All sites had access to internal medicine, emergency medicine, intensive care, and neurosurgery; only 61.9% had neurointerventional radiology or angiography suites. MT specialties varied. Of 54 MT-eligible patients, 79.7% underwent the procedure. 8.7% received thrombolysis, and 2.0% underwent decompressive craniectomy. Variation occurred in imaging and antiplatelet use. At discharge, 80% returned home where the median Glasgow Coma Scale (GCS) before discharge was 15.

Conclusions: Significant global variation exists in access to AIS treatments including MT, specialized teams, and management practices for AIS due to LVO. These differences may contribute to outcome variability beyond current MT guidelines

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Incidence and Clinical Features of Intracerebral Hemorrhage in the Cerebellum and Brainstem: 231 Consecutive Cases

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Intracerebral hemorrhage (ICH) in the posterior fossa, i.e., cerebellum and brainstem, often has a poor prognosis. Treatment options are limited. However, primary preventive measures may have changed during the last decades. We aimed to study the in-hospital incidence and characteristics of posterior fossa ICH and examine whether these changed during a 13-year period.

Methods: In this cohort study, we identified patients hospitalized due to spontaneous posterior fossa ICH at Skåne University Hospital from 2003 to 2015 registered in Riksstroke, a national stroke quality registry. We calculated incidence by using the direct method, weighted to the Swedish and European populations. Baseline characteristics, clinical admission features and radiology were obtained from medical records and Riksstroke. We also compared the first half with the latter half of the observation period.

Results: We identified 139 cases of cerebellar and 92 of brainstem ICH. The in-hospital incidence was 2.7 for cerebellar and 1.8 for brainstem ICH per 100,000 person-years. The most prevalent comorbidities were hypertension and cerebral white matter lesions. Patients with cerebellar ICH were older, more frequently female, and more likely to have hypertension, heart disease, or anticoagulant/antiplatelet medications compared to those with brainstem ICH. Patients with brainstem ICH more often were unconscious or had abnormal pupillary reactions at admission. Patients affected during the latter half of the study period were older, and more often had hypertension or ongoing anticoagulant therapy.

Conclusions: The in-hospital incidence of posterior fossa ICH was 4.4 per 100,000 per person-years in this large cohort study of a defined population. Posterior fossa ICH, particularly in the cerebellum, was strongly linked to cardiovascular disease risk factors.

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Decompressive craniectomy in patients with aortic dissection and ischemic stroke

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Ischemic stroke may result from local vascular occlusions, thromboembolic events, or vascular dissections. Stroke associated with aortic dissection (AD) represents a particularly challenging clinical entity. Randomized controlled trials (HAMLET, DESTINY, and DECIMAL) have demonstrated a beneficial effect of early decompressive hemicraniectomy (DHC) on functional outcome in patients with malignant cerebral infarction. Although patients with carotid artery dissections were included, individuals with severe acute systemic comorbidities beyond stroke, were excluded from these trials. Consequently, the existing literature on DHC in patients with AD is limited to few case reports. The aim of the present study is to evaluate the potential benefit of DHC in this particularly vulnerable patient population.

Methods: We conducted a retrospective analysis of all patients admitted to our center with a diagnosis of AD Stanford Type A. Using ICD codes, AD cases complicated by ischemic events were identified and screened for neurosurgical interventions. Neurological deficits, CCT findings, cardiac surgical parameters, and functional outcome (mRS) were analyzed.

Results: From January 2015 to January 2026, a total of 69 patients were identified who had been diagnosed with cerebral ischemia in addition to AD. Of these, 6 patients underwent neurosurgical treatment. In 2 cases, DHC was performed, and in 4 cases, an ICP probe or ventricular drainage was implanted. One patient who underwent implantation of a ICP probe was transferred to rehabilitation with an mRS of 5. All other patients died in hospital (mRS 6) due to circulatory failure.

Conclusions: Both AD and malignant cerebral infarction are associated with high mortality, especially when both occur simultaneously. In our cohort, mortality was 83%, and 100% in patients who received DHC. Whether selected patients can still benefit from DHC will now be examined in a multicenter study.

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Posterior Fossa Decompression With Versus Without Cerebellar Strokectomy for Space-Occupying Cerebellar Infarction: Radiographic Decompression, CSF Diversion, and Clinical Outcomes

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Space-occupying cerebellar infarction with mass effect may cause lethal brainstem compression and obstructive hydrocephalus. Posterior fossa