

Do geographical considerations and patient volume argue to convert a primary into a comprehensive stroke center

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Background: No comprehensive study exists about Mechanical Thrombectomy (MT) accessibility for patients admitted to a primary stroke center (PSC) without on-site interventional neuroradiology service. **Aims:** To evaluate MT accessibility within 6 hours after transfer from a PSC to a distant (1.5 hour by car) comprehensive stroke center (CSC). **Methods:** 3-year prospective registry of patients admitted to a PSC within 4.5 hours after symptom onset selected for transfer to a CSC for MT. Eligible patients had confirmed proximal arterial occlusion and no large cerebral infarction on MRI (DWI-ASPECTS ≥ 5). The rate of transfer, transfer without MT, MT, reperfusion (TICI score $\geq 2b-3$) and main relevant time measures were determined. **Results:** Among the 385 patients selected for intravenous thrombolysis (IVT) and/or potential MT, 211 were considered as transferrable for MT. The rate of transfer was 56.4% (n=119/211), transfer without MT 56.3% (n=67/119), MT 24.6% (n=52/211) and overall reperfusion 18% (n=38/211). The relevant median times (interquartile range) were: 130 minutes (62) for IVT start to CSC door, 95 minutes (39) for PSC door-out to CSC door-in, 191 minutes (44) for IVT start to MT puncture, 354 minutes (107) for symptom onset to MT puncture and 417 minutes (124) for symptom onset to recanalization. **Conclusions:** Our study suggests that transfer to a distant CSC is associated with reduced access to early MT in patients with acute ischemic stroke and large artery occlusion. These results could be translated to other high volume distant PSC.