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DOES BRIDGING-THERAPY IN MECHANICAL THROMBECTOMY INCREASE RECANALIZATION RATES IN ISCHEMIC STROKE PATIENTS AFFECTED BY ACUTE LARGE VESSEL OCCLUSION?

Andreia M. Silva Santos[1,7*], Rosanna Rossi[1,2*], Abhay Pandit[2], Seán Fitzgerald[1,2], Oana Madalina Mereuta[1,2], Andrew Douglas[1,2], John Thornton[3], Paul Brennan[3], Sarah Power[3], Alan O' Hare[3], Alexandros Rentzos[4], Erik Ceder[4], Turgut Tatlisumak[5], Katarina Jood[5], Petra Redfors[5], Annika Nordanstig[5], Sharon Duffy[6], Michael Gilvarry[6], Ray McCarthy[6], Karen M. Doyle[1, 2]

***The two authors gave an equal contribution to the work.**

[1]Department of Physiology, School of Medicine, National University of Ireland, Galway, University Road, Galway, Ireland, [2]CÚRAM–Centre for Research in Medical Devices, National University of Ireland Galway, Galway, Ireland, [3]Department of Radiology, Royal college of Surgeons in Ireland, Beaumont Hospital, Dublin Ireland, [4]Department of Interventional and Diagnostic Neuroradiology, Sahlgrenska University Hospital, Gothenburg, Sweden, [5]Department of Neurology, Sahlgrenska University Hospital, Gothenburg, Sweden, [6]Cerenovus, Galway, Ireland, [7]Centro Universitário Unievangélica, Anápolis, Goiás, Brasil

Both intravenous thrombolysis with tissue plasminogen activator (IV-rtPA) and mechanical thrombectomy (MT) increase recanalization rates. We assessed if bridging-therapy (the concomitant use of rtPA and MT) could increase the recanalization rates and reduce the number of procedural passes in patients suffering from acute ischemic stroke (AIS) when compared to MT alone. Analysis of type of device used, stentriever or aspiration catheter, is also reported.

334 mechanically extracted thrombi were collected from two partner hospitals: Beaumont (Dublin) and Sahlgrenska (Gothenburg). 158 patients (47.3%) were treated with bridging-therapy, while 176 (52.7%) underwent MT alone. Recanalization rate was defined by using the modified Thrombolysis In Cerebral Infarction (mTICI) score. Non-parametric Kruskal-Wallis test was used for statistical analysis.

Bridging-therapy reduced the total number of passes to remove the clot (mean for MT+rtPA=2.27±2.10, MT alone=2.63±1.88, H_1=4.376, p=0.036*). Analysing the device, rtPA lowered the overall number of passes using stentriever devices (mean for MT+rtPA=1.57±1.12, MT alone=2.36±1.48, H_1=8.303, p=0.004*), but not for aspiration (mean for MT+rt-PA=1.78±1.22, MT alone=2.03±1.47, for H_1=0.795, p=0.372). Also, when using both devices no significant reduction of number of passes was observed (mean for MT+rtPA=3.29±2.90, MT alone=3.83±2.20, H_1=3.027, p=0.082). There was no significant effect on final mTICI score using bridging-therapy when compared to MT alone (H_1=1.163, p=0.281).

This small study suggests that bridging-therapy lowers the number of procedural passes in MT procedures, specifically when using stentriever devices. However, this did not have a significant effect on final mTICI score.

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