EUROPEAN STROKE JOURNAL

ESO | S
EUROPEAN STROKE
ORGANISATION

ESOC 2023 Abstract Book

ESOC 2023 – Oral Presentations

O001/1183

Scientific Communication SC2 - IV Thrombolysis

BRIDGING THERAPY WITH TENECTEPLASE OR ALTEPLASE IN PATIENTS WITH LOW DIFFUSION-WEIGHED IMAGING ALBERTA STROKE PROGRAM EARLY COMPUTED TOMOGRAPHY SCORE

Gaspard Gerschenfeld*[1,2], Guillaume Turc[3,4], Michael Obadia[5], Nicolas Chausson[4,6], Arturo Consoli[7], Stephane Olindo[8], Jildaz Caroff[9], Gaultier Marnat[10], Raphael Blanc[11], Wagih Ben Hassen[4,12], Seners Pierre[5], Benoît Guillon[13], Emmanuel Wiener[14], Bourcier Romain[15], Marion Yger[1,2], Tae-Hee Cho[16], Benjamin Gory[17], Igor Sibon[18], Sébastien Richard[19], Frédéric Clarençon[20], Omer Eker[21], Fernando Pico[14], Bertrand Lapergue[22], Sonia Alamowitch[1,2]

[1]APHP Sorbonne Université - Hôpital Pitié Salpêtrière, Urgences Cérébro-Vasculaires, Paris, France, [2]Institut du Cerveau, STARE Team, iCRIN, Paris, France, [3]GHU Paris Psychiatrie Neurosciences, Service de Neurologie, Paris, France, [4]Université de Paris, INSERM U1266, FHU NeuroVasc, Paris, France, [5]Fondation Adolphe de Rothschild, Service de Neurologie, Paris, France, [6]Centre Hospitalier Sud Francilien, Service de Neurologie, Corbeil-Essonnes, France, [7]Hôpital Foch, Service de Neuroradiologie Interventionnelle, Suresnes, France, [8]CHU de Bordeaux, Service de Neurologie, Bordeaux, France, [9]APHP - Hôpital Bicêtre, Service de Neuroradiologie Interventionnelle, Kremlin-Bicêtre, France, [10]CHU de Bordeaux, Service de Neuroradiologie Diagnostique et Interventionnelle, Bordeaux, France, [11]Fondation Adolphe de Rothschild, Service de Neuroradiologie Interventionnelle, Paris, France, [12]GHU Paris Psychiatrie Neurosciences, Service de Neuroradiologie, Paris, France, [13]CHU de Nantes, Service de Neurologie, Nantes, France, [14]Centre Hospitalier André Mignot, Service de Neurologie, Le Chesnay, France, [15]CHU de Nantes, Service de Neuroradiologie Interventionnelle, Nantes, France, [16]Hospices Civils de Lyon, Service de Neurologie, Lyon, France, [17]CHU de Nancy, Service de Neuroradiologie Interventionnelle, Nancy, France, [18]CHU de Bordeaux, Service de Neurologie, Paris, France, [19]CHU de Nancy, Service de Neurologie, Nancy, France, [20]APHP Sorbonne Université - Hôpital Pitié Salpêtrière, Service de Neuroradiologie, Paris, France, [21]Hospices Civils de Lyon, Service de Neuroradiologie Interventionnelle, Lyon, France, [22]Hôpital Foch, Service de Neurologie, Suresnes, France

Background and aims: Intravenous tenecteplase is an alternative to alteplase before mechanical thrombectomy (MT) in patients with large-vessel occlusion ischemic stroke (LVOS). Little data is available on its use in patients with large ischemic core. We aimed to compare the efficacy and safety of both thrombolytics in this population.
Methods: We conducted a retrospective analysis of patients with anterior circulation LVOS and diffusion-weighed imaging Alberta Stroke Program Early Computed Tomography Score (DWI-ASPECTS) $\leqslant$ 5 treated with tenecteplase or alteplase before MT from the TETRIS (tenecteplase) and ETIS (alteplase) French multicenter registries. Primary outcome was reduced disability at 3-month (shift analysis of the mRS). Safety outcomes were parenchymal hemorrhage (PH) and symptomatic intracranial hemorrhage (sICH). We used propensity score-weighting for all analyses.
Results: We analyzed 439 patients (tenecteplase: n=140; alteplase: n=299; inclusion period 2015-2021). Median [IQR] age was 70 years [55-81], NIHSS score 19 [16-22], DWI-ASPECTS 4 [3-5], onset-to-IVT and onset-to-puncture times 150 minutes [125-180] and 235 minutes [188-296], respectively. Successful reperfusion rate was 84.5%. Following propensity score weighting, all baseline variables were well-balanced between both treatment groups. Compared with alteplase, patients treated with tenecteplase had similar 3-month mRS (cOR for reduced disability: 1.16; 0.91-1.49; p=0.23), lower rates of PH (OR 0.61; 0.43-0.88; p=0.01) but similar rates of sICH (OR 1.11; 0.61-2.02; p=0.74).
Conclusions: Our data are reassuring regarding the safety and efficacy of tenecteplase compared to alteplase in bridging therapy for patients with LVOS and a large ischemic core in routine clinical care.
Disclosure of interest: No

O002/2068

Scientific Communication SC2 - IV Thrombolysis

INTRA-ARTERIAL THROMBOLYSIS FAVORS DELAYED CLEARANCE OF VESSEL OCCLUSIONS FOLLOWING INCOMPLETE REPERFUSION WITH THROMBECTOMY

Adnan Mujanovic*[1], Urs Fischer[2,3], Jan Gralla[1], Johannes Kaesmacher[1]

[1]University Hospital Bern Inselspital, Department of Diagnostic and Interventional Neuroradiology, Bern, Switzerland, [2]University Hospital Bern Inselspital, Department of Neurology, Bern, Switzerland, [3]University Hospital Basel, Department of Neurology, Basel, Switzerland

Background and aims: Intra-arterial thrombolysis (IAT) may be applied to treat distal vessel occlusions which cause incomplete reperfusion following thrombectomy. Because immediate reperfusion after IAT occurs rarely, aim of this analysis was to assess the effect of IAT using 24h perfusion imaging.
Methods: All patients undergoing thrombectomy with incomplete reperfusion (Thrombolysis in Cerebral Infarction (TICI) 2a-2c score) and available 24h perfusion imaging were assessed (n=459). Perfusion imaging was rated as delayed distal vessel occlusion clearance if time-sensitive perfusion maps (Tmax/TTP) did not show wedge-shaped delays suggestive of persisting occlusions corresponding to the post-procedural angiographic deficit. Forty patients treated with intra-arterial (IA) Urokinase were compared to controls using logistic regression and inverse probability weighting adjusting for baseline differences and factors associated with delayed distal vessel occlusions clearance (e.g. collateral status, higher TICI score).
Results: Rate of distal vessel occlusion clearance was 60.5% (278/459). Patients treated with IA Urokianse were younger and had worse TICI scores. After adjustment, however, IA Urokinase was associated with higher rates of delayed distal vessel occlusion clearance (aOR 2.7, 95%CI 1.2 – 6.5) and lower rates of new infarction in the hypoperfused territory

was evaluated by the treating neurologist and documented in the emergent stroke treatment protocol. Post-admission ps-mRS was retrospectively evaluated based on information registered in the clinical records by treating physicians, case-management nurses and social service workers. Collection of demographic and clinical characteristics and 3-month outcomes. Groups with and without overestimated pre-stroke functional status (defined as an ED ps-mRS $<$ post-admission ps-mRS) were compared.

Results: Among a final population of 422 patients (median age 77 years, 50% female patients, median NIHSS 14), concordance of ED ps-mRS and post-admission ps-MRS was found in 64% of patients (Cohen´s kappa=0.498, p<0.001). Overestimation of pre-stroke functional status was found in 103 patients (24%). Patients with overestimated pre-stroke functional status were older (p<0.001), more frequently presented diabetes (p=0.003) and less frequently presented 3-month functional independence (p<0.001).

Conclusions: Disagreement between ED ps-mRS and post-admission ps-mRS occurs in 1/3 of patients. Overestimation of pre-stroke functional status may induce a mismatch between expected and observed 3-month functional outcomes.

Disclosure of interest: No

PROGNOSIS AND OUTCOME AFTER STROKE

2451

Prognostic role of serum ICAM-1 in patients with acute ischemic stroke

Kutlibika Abdurakhmonova*[1], Gulnora Rakhimbaeva[1]

[1]*Tashkent Medical Academy, Neurology, Tashkent, Uzbekistan*

Background and aims: Intracellular adhesion molecule-1 (ICAM-1) which is elevated in atherosclerosis and cardiovascular diseases is also an important inflammatory marker in patients with acute ischemic stroke. The aim of the study was to assess the correlation between ICAM-1 and the prognosis of acute ischemic stroke (AIS).

Methods: 86 patient were enrolled in this study. Fasting blood of all patients was collected within 24 hours of admission. Serum ICAM-1 concentration was measured by the enzyme-linked immunosorbent assay (ELISA). The modified Rankin Score (mRS) was used to determine the clinical outcome 3 months after stroke. According to the outcomes, patients were divided into two groups: patient with good and poor outcomes. The good prognosis was mRS $<$ 3, while poor prognosis was mRS $\geqslant$ 3.

Results: The serum ICAM-1 concentration of patients with poor prognosis were remarkably higher than that of patients with good prognosis. The levels of serum ICAM-1 in patients with AIS in the good prognosis group and the poor prognosis group were (122.4 $\pm$ 11.8) and (154.2 $\pm$ 12.8) pg/ml, respectively. According to the logistic regression analyses, the serum concentration of ICAM-1 is an independent predictor in patients with AIS (p = 0,007).

Conclusions: The serum ICAM-1 concentration in patients with AIS with poor prognosis was remarkably higher than that in the good prognosis patients. The baseline serum ICAM-1concentration can predict the prognosis of AIS.

Disclosure of interest: No

PROGNOSIS AND OUTCOME AFTER STROKE

2563

Elevated Leukocyte Counts Are Associated With Worse Functional Outcomes in Patients with Large Vessel Occlusion

Destiny Hooper*[1], Heidi Sucharew[1], Ali Eltatawy[1], Roberto Chulluncuy Rivas[1], Yasmin Aziz[1], Raghav Gangatirkar[1], Charles Mccane[2], Jason Lee[2], Ken Chyuan Ling[2], David Chiu[2], Rajan Gadhia[2], Achala Vagal[1]

[1]*University of Cincinnati, Neurology, Cincinnati, United States,* [2]*Houston Methodist Hospital, Neurology, Houston, United States*

Background and aims: Despite recent advancements in the treatment of acute ischemic stroke with large vessel occlusion (AIS LVO), recovery remains variable, suggesting other factors independent of circulation may influence outcomes. We sought to investigate the time-dependent impact of blood-derived leukocytes on functional outcomes in AIS LVO patients treated with endovascular thrombectomy (EVT).

Methods: A multi-center, retrospective analysis was performed on sequential AIS LVO patients presenting May 2016 to May 2019. Complete blood counts (CBC) were evaluated from venous blood collected at three different time frames: $<$24, 25-48 and 49-72 hours from last know well (LKW). A poor outcome was defined as a modified Rankin Score of $\geqslant$3 at 90 days. Multivariable logistic regression was performed to evaluate the association between leukocyte counts and outcomes, adjusting for covariates.

Results: A total of 355 patients were included [male 51%; median age 68 (58-80)]. After adjusting for age, sex, stroke severity (presenting NIHSS), use of alteplase, percent recanalization with EVT and symptomatic intracranial hemorrhage, an elevated absolute monocyte count within 24 hours of LKW (OR=1.12 95% CI:1.03-1.23; p=0.01), as well as a greater neutrophil/lymphocyte ratio (OR=1.10 95% CI:1.03-1.17; p=0.01) post-EVT at 25-48 hours, was found to be associated with a poor outcome.

Conclusions: Based on our analytical cohort, a more robust inflammatory response post-stroke may be associated with worse outcomes in patients with LVO. Larger prospective studies are needed to better understand the time-dependent role of leukocyte subtype profiles, as well as identify other biomarkers involved in the inflammatory cascade post-stroke.

Table 1. Odds ratios associated with poor functional outcome at 90 days.

Patient Characteristics	Poor mRS (≥3) OR (95% CI)	p-value
Age (per year)	1.04 (1.02-1.06)	<0.01
Male	1.14 (0.67-1.93)	0.62
NIHSS (per point)	1.08 (1.04-1.12)	<0.01
Symptomatic ICH	4.89 (2.09-11.46)	<0.01
Received alteplase	0.49 (0.29-0.81)	0.01
mTICI Scale (per point)	0.46 (0.31-0.68)	<0.01

Abbreviations: OR = Odds ratio, CI= Confidence Interval, NIHSS = National Institute of Health Stroke Scale, mTICI =Modified Thrombolysis in Cerebral Infarction Scale, mRS = Modified Rankin Scale

Table 2. Time-dependent leukocyte counts and ratios associated with poor functional outcome at 90 days.

Time frame from LKW	Poor mRS (≥3) OR (95% CI) <24 hours	p-value	Poor mRS (≥3) OR (95% CI) 25-48 hours	p-value	Poor mRS (≥3) OR (95% CI) 49-72 hours	p-value
Absolute Monocyte Count (per 100 cells)	1.12 (1.03-1.23)	0.01	0.99 (0.90-1.09)	0.87	1.06 (0.96-1.16)	0.28
Neutrophil/Lymphocyte Ratio	1.02 (0.99-1.05)	0.32	1.10 (1.03-1.17)	0.01	1.04 (0.99-1.09)	0.15
Lymphocyte/Monocyte Ratio	0.88 (0.75-1.03)	0.10	0.84 (0.65-1.07)	0.16	0.87 (0.66-1.14)	0.32

Abbreviations: OR = Odds ratio, CI= Confidence Interval, LKW = Last Known Well, mRS = Modified Rankin Scale

Disclosure of interest: No

PROGNOSIS AND OUTCOME AFTER STROKE

2572

LASSO PREDICTION OF FUTILE RECANALIZATION AND TREATMENT RESPONSE IN PATIENTS WITH ANTERIOR LARGE VESSEL OCCLUSION STROKE RANDOMISED TO MECHANICAL THROMBECTOMY

Hannah-Lea Handelsmann*[1], Lisa Herzog[2,3], Arnolt-Jan Hoving[4], Charles Majoie[4], Wim Van Zwam[5], Aad van der Lugt[6], Susanne Wegener[1,3]

[1]*University of Zurich, Faculty of Medicine, Zurich, Switzerland,* [2]*University of Zurich, Epidemiology, Biostatistics & Prevention Institute, Zurich, Switzerland,*