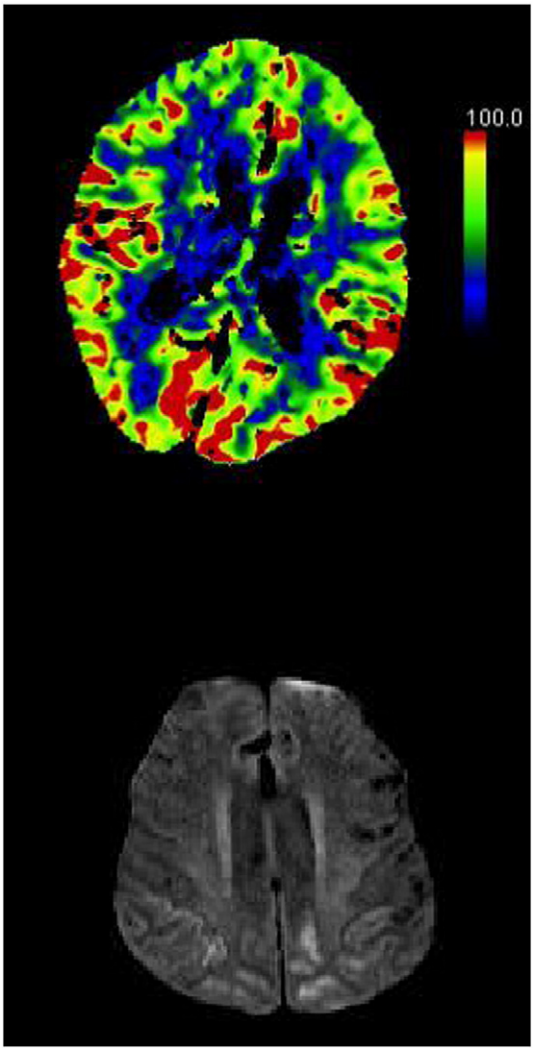
Kent Hospitals University NHS Foundation Trust, Ashford, United Kingdom; [c]Department of Stroke Medicine, East Kent Hospitals University NHS Foundation Trust, Ashford, United Kingdom; [d]Department of Electrophysiology, East Kent Hospitals University NHS Foundation Trust, Ashford, United Kingdom

Purpose: To evaluate imaging changes in subjects with hypoxic ischemic encephalopathy (HIE) post cardiac arrest.

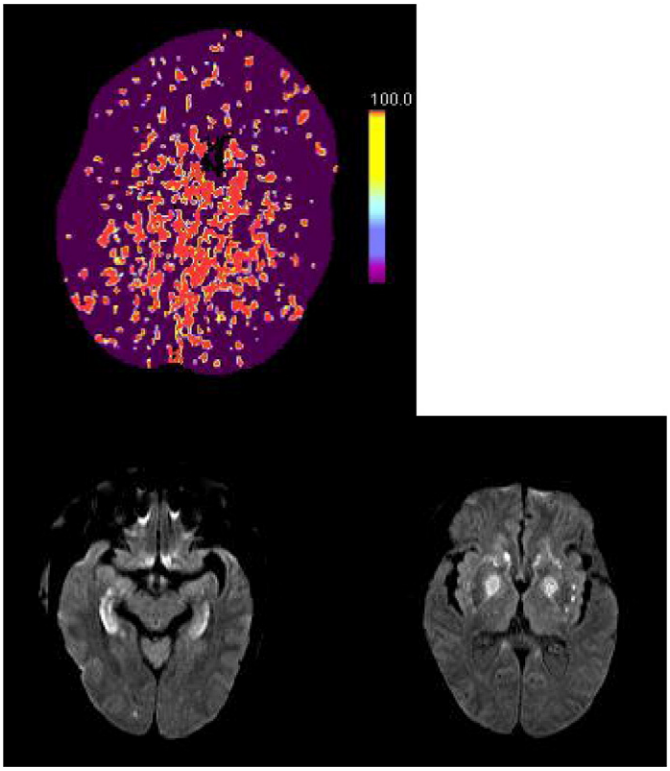
Method: From 2013 to 2014, 6 subjects admitted to Intensive Care Unit after successful post cardiac arrest cardiopulmonary resuscitation, were assessed with imaging which included baseline plain computed tomography (CT) and also with perfusion CT (pCT) and magnetic resonance imaging MRI, given lack of improvement of their Glasgow comma scores (GCS) after induced hypothermia. They were also assessed clinically, neurologically and with electroencephalography.

Cortical flow was assessed on pCT with relative blood flow (rBF), relative blood volume (rBV), time to peak (TTP) and mean transit time (MTT) series, following the same protocol in use to assess acute stroke subjects at our institution. MRI included diffusion weighted imaging (DWI) series and apparent diffusion coefficient (ADC) maps. Imaging findings were correlated with clinical assessment. There were no control subjects given the particular clinical situation triggering the protocol mentioned above.

Results: All subjects showed ischemic-type signal intensity changes in cortical areas of the posterior circulation and basal ganglia, which matched an abnormally increased rBVF showing flow rates above 80 ml/min/100 g, when scans were obtained in a period of 48 hours post induced hypothermia. One of them had a follow up pCT 72 hours post induced hypothermia showing a marked generalized flow drop to 22 ml/min/100 g in cortical regions and basal ganglia.



Conclusion: pCT was a reliable indicator of abnormal flow post induced hypothermia in this cohort of subjects not regaining alertness or improving GCS, showing abnormal flow increase post treatment apparently due to impaired self regulation.



doi:10.1016/j.jns.2015.08.342

267
WFN15-0513
Stroke 3

Endovascular treatment of acute middle cerebral artery occlusion — comparison of treatment methods and identification of outcome predictors

R. Herzig[a], K. Blejcharova[b], E. Vitkova[c], M. Roubec[d], D. Sanak[e], A. Tomek[f,g], A. Krajina[h], V. Prochazka[i], M. Kocher[j], F. Charvat[k], D. Krajickova[c], M. Kuliha[d], J. Zapletalova[l], M. Valis[c], D. Skoloudik[d]. *[a]Department of Neurosurgery and Neurooncology Comprehensive Stroke Center, Military University Hospital, Prague, Czech Republic; [b]Department of Neurology, Vitkovice Hospital, Ostrava, Czech Republic; [c]Department of Neurology Comprehensive Stroke Center, Charles University and University Hospital, Hradec Kralove, Czech Republic; [d]Department of Neurology Comprehensive Stroke Center, Ostrava University and University Hospital, Ostrava, Czech Republic; [e]Department of Neurology Comprehensive Stroke Center, Palacky University and University Hospital, Olomouc, Czech Republic; [f]Department of Neurology Stroke Center, Charles University, Prague, Czech Republic; [g]Motol University Hospital, Prague, Czech Republic; [h]Department of Radiology Comprehensive Stroke Center, Charles University and University Hospital, Hradec Kralove, Czech Republic; [i]Department of Radiology Comprehensive Stroke Center, Ostrava University and University Hospital, Ostrava, Czech Republic; [j]Department of Radiology Comprehensive Stroke*

Center, Palacky University and University Hospital, Olomouc, Czech Republic; [k]Department of Radiology Comprehensive Stroke Center, Military University Hospital, Prague, Czech Republic; [l]Department of Medical Biophysics, Palacky University, Olomouc, Czech Republic

Background: In the treatment of acute middle cerebral artery occlusion (MCAo), endovascular treatment (EVT) becomes preferred recanalization method. EVT comprises also percutaneous transluminal angioplasty (PTA) and mechanical thrombectomy (MT); only limited data are available regarding their comparison.
Objective: To evaluate safety and efficacy of PTA and MT in the treatment of acute MCAo, including intravenous thrombolysis (IVT) with subsequent EVT, and to identify outcome predictors.
Patients and methods: In the retrospective study, data from the Czech national multicenter registry of cerebral mechanical recanalizations were analyzed. The set consisted of 126 acute ischemic stroke patients (64 males; mean age 68.0 ± 13.3 years) with radiologically confirmed MCAo. Patient approval was obtained, as necessary.
Results: Good 90-day clinical outcome (mRS 0-2) was achieved more frequently in patients treated with IVT + MT (56.4%) than with IVT + PTA (33.3%) ($P = 0.04$). Other differences found between the particular groups (PTA, MT, IVT + PTA, IVT + MT) were not statistically significant: successful recanalization in 89.1%, 93.1%, 86.7% and 91.4%, resp., and good 90-day clinical outcome in 41.1%, 51.0%, 33.3% and 56.4%, resp. ($P > 0.05$ in all cases). Diastolic blood pressure on admission (OR = 0.940, 95% CI: 0.902-0.980, $P = 0.004$) and neurologic deficit at the time of treatment (OR = 0.820, 95% CI: 0.728-0.922, $P = 0.001$) were identified as independent negative predictors and, achieved recanalization – TICI 2-3 (OR = 20.8, 95% CI: 1.400-319.1, $P = 0.029$) as an independent positive predictor of good 90-day clinical outcomes.
Conclusion: Data from this registry showed that both PTA and MT represented safe and effective recanalization methods of acute MCAo. Supported by the IGA MH CR grant NT/13498-4/2012.

doi:10.1016/j.jns.2015.08.343

268
WFN15-0558
Stroke 3
Extent of investigation and classification criteria impact etiologies of ischemic stroke in the young

A. Conforto, F.I. Yamamoto, T. Figueredo. *Department of Neurology, Hospital das Clínicas São Paulo University, São Paulo, Brazil*

Background: There is no consensus about the extent of investigation or the etiological classification to be applied for ischemic stroke (IS) in young adults.
Objectives: 1. To evaluate the impact of the extent of investigation on definition of IS etiology as "undetermined", in young patients with stroke; 2.To evaluate the impact of classifying IS in patients with isolated patent foramen ovale (PFO) as "cardioembolic" or of "undetermined etiology".
Patients and methods: We evaluated data from 143 patients with IS, aged 14–45 years. The extent of investigation was characterized according to two protocols: "stepwise" or "extensive". Statistical analysis was performed using Chi-square tests. I have obtained Institutional Review Board (IRB) approval for this study.
Results: The mean (± standard deviation) age was 35.1 ± 7.6 years and there was a female predominance (62%). According to the extensive protocol, the etiology was considered determined in 69% of patients undergoing "complete" investigation, and 58% in patients undergoing "incomplete" investigation. Performance of the extensive protocol was not associated with increase in determination of IS etiology, compared to the stepwise protocol (Chi-square = 1.45; p = 0.228). When IS associated with an isolated PFO was classified as "cardioembolic", the frequency of IS of "undetermined etiology" was 38%. When this type of IS was classified as of "undetermined etiology" the frequency of IS of "undetermined etiology" increased to 57% (Chi-square = 145.1; p < 0.001).
Conclusion: These results help to explain heterogeneous results reported by different studies. Evidence-based, cost-effective protocols of investigation are deeply need, as well as consensus about etiologic classification of IS in the young.

doi:10.1016/j.jns.2015.08.344

269
WFN15-0615
Stroke 3
Sex differences in characteristics of ischaemic strokes in a prospective series of 334 young patients

I. Zinchenko[a], V. Lauer[a], V. Quenardelle[a], O. Rouyer[a], C. Marescaux[a], B. Geny[b], V. Wolff[a]. *[a]Neurology Stroke Unit, Strasbourg University Hospital, STRASBOURG Cedex, France; [b]Physiology, Strasbourg University Hospital, STRASBOURG Cedex, France*

Background and purpose: to analyze trends in risk factors, aetiologies and clinical outcome of ischaemic stroke (IS) related in men versus women.
Methods: We have prospectively included 334 young adults (<45 years) between 2005 and 2014 with an acute IS confirmed by MRI. We have obtained patients approval, as necessary. The patients were investigated by standardized protocol including biological and toxicological screenings and cardio-vascular check-up.
Results: In the whole series of 334 patients, mean age was 36.8 ± 0.36 and sex ratio 1.1. Lifestyle risk factors were significantly more common in men: smoking in 54.8% vs 44% (p = 0.03), active cannabis use 23.4% vs 10.6% (p = 0.02), alcohol 22.8% vs 6.2% (p < 0.001). Also potentially modifiable risk factors as hypercholesterolemia, hypertension and diabetes were more common in men respectively (49.7 vs 32%, p = 0.01; 30.2% vs 16.3%, p = 0.02; 7.4 vs 1.8%, p = 0,01). History of migraine was more prevalent in women 37.1% vs 12.5%, p < 0.001. The following aetiologies had similar prevalence in both sexes: cardioembolism, intracranial arterial stenosis, isolated patent foramen ovale, haematological diseases, atherosclerosis. Small vessel disease and aneurysm were present only in men 1.7% and 1.1% respectively. Cervical dissection was more frequent in women 15% vs 8%. Aetiology of IS was unknown in 26% for both. The mRS at 3-6 months was ≤ 2 in about 90% for both.
Conclusion: Non-modifiable and modifiable lifestyle risk factors are highly prevalent in men. IS are more frequently associated with migraine and cervical dissection in women. The clinical outcome is similar despite differences in aetiologies and risk factors.

doi:10.1016/j.jns.2015.08.345

270
WFN15-0644
Stroke 3
Renal impairment and symptomatic hemorrhagic transformation in Korean patients receiving intravenous thrombolysis

S. Lee[a], B. Kim[a], M. Han[a], H. Bae[a], T. Park[b], S. Lee[c], Y. Ko[c], K. Lee[d], J. Lee[e], J. Park[f], K. Kang[f], J. Choi[g], D. Kim[h], W. Ryu[h], J. Kim[i], K. Choi[i], J. Cha[j], D. Kim[j], H. Nah[j], B. Lee[k], K. Yu[k], M. Oh[k], Y. Cho[l], K. Hong[l], W. Kim[m], D. Shin[n], J. Hong[o], S. Sohn[o], J. Lee[p], J. Lee[q]. *[a]Neurology, Seoul National University Bundang hospital, Seongnam-si Gyeonggi-do, Korea; [b]Neurology, Seoul*