Association of Sri Lankan Neurologists

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Snippets from the Journals

Welcome to the inaugural issue of the ASN Neurology Journal Update. We know it can be difficult to stay on top of the latest research and discussion in the field of neurology.
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Medial temporal lobe epilepsy associated with hippocampal sclerosis is a distinctive syndrome

No YJ, Zavanone C, Bielle F, Nguyen-Michel VH, Samson Y, Adam C, Navarro V, Dupont S.
J Neurol. 2017 Mar 2. doi: 10.1007/s00415-017-8441-z.

In its new classification, the International League Against Epilepsy (ILAE) Commission on Classification and Terminology has defined an electroclinical syndrome as a complex of clinical features, signs, and symptoms that together define a distinctive, recognizable clinical disorder. Should medial temporal lobe epilepsy (TLE) with hippocampal sclerosis (HS) be considered a subtype of a broader syndrome of temporal lobe epilepsy?

This study retrospectively collected data from medical and EEG-video records of 523 TLE patients referred for surgery to the Pitie´-Salpeˆtrie`re Epileptology Unit between 1991 and 2014. Patients were grouped in to TLE-HS (group 1), TLE patients with medial structural lesion other than HS or in MRI-negative cases with medial onset on further investigations (group 2) and lateral TLE patients (group 3). A comparative analysis of clinical data and surgical outcomes on 389 patients belonging to group 1, 61 patients belonging to group 2, and 73 patients belonging to group 3 were performed.

Conclusion: Three cardinal criteria correctly classified 94% of patients into TLE-HS group: history of febrile convulsions, dystonic posturing, and secondary generalized tonic clonic seizures. Postoperative outcome was significantly better in TLE-HS group than in the two other groups ($p = 0.03$ and 0.003). This may allow considering TLE-HS as a distinctive syndrome

Intracerebral hemorrhage location and outcome among INTERACT2 participants.

Delcourt C, Sato S, Zhang S, Sandset EC, Zheng D, Chen X, Hackett ML, Arima H, Hata J, Heeley E, Al-Shahi Salman R, Robinson T, Davies L, Lavados PM, Lindley RI, Stapf C, Chalmers J, Anderson CS; INTERACT2 Investigators.
Neurology. 2017 Feb 24. pii: 10.1212/WNL.0000000000003771. doi: 10.1212/WNL.0000000000003771.

INTERACT2 study was a randomized, open, multicenter, controlled trial which recruited 2,839 patients with imaging-confirmed ICH. Patients were randomly assigned to receive either early intensive blood pressure lowering treatment (140mmHg systolic BP goal) or the guideline-recommended BP management (180 mm Hg systolic BP goal) within 6 hours of onset. Follow-up was to 90 days. Previously published data in this trial suggested that optimal recovery from ICH was observed in hypertensive patients who achieved the greatest SBP reductions (≥20 mm Hg) in the 1st hour and maintained for 7 days.

Infratentorial location of ICH predicts a higher likelihood of death or dependency. However, the relationship between specific locations of supratentorial ICH and outcome is poorly understood. In the above study, involvement of posterior limb of internal capsule increased risks of death or major disability (OR=2.10) and disability (OR=1.81); thalamic involvement increased risks of death or major disability (OR=2.24)and death (OR=1.97). Posterior limb of internal capsule involvement was strongly associated with low scores across all health-related quality of life domains.

Conclusion: Poor clinical outcomes are related to ICH affecting the posterior limb of internal capsule, thalamus, and infratentorial sites.

Seizures and risk of epilepsy in autoimmune and other inflammatory encephalitis`
Spatola M, Dalmau J.
Curr Opin Neurol. 2017 Feb 22. doi: 10.1097/WCO.0000000000000449.

Seizures are a frequent manifestation of autoimmune encephalitis. Most patients with autoimmune encephalitis associated with antibodies against neuronal cell-surface antigens develop seizures. These cell surface antigens include $GABA_AR$, $GABA_BR$, LGI1, CASPR2, AMPAR and NMDAR. However, after the encephalitis is successfully treated, the risk of developing chronic epilepsy is low in these patients (<15%). In contrast patients with seizures related to intracellular antigens (ie:-GAD65-antibodies) frequently develop epilepsy and have suboptimal response to treatment.

Fever-induced refractory epileptic syndrome, new-onset refractory status epilepticus and Rasmussen's encephalitis with proposed auto-immune processes have a poor prognosis.

Myelin oligodendrocyte glycoprotein antibodies: How clinically useful are they?
Reindl M, Jarius S, Rostasy K, Berger T.
Curr Opin Neurol. 2017 Feb 28. doi: 10.1097/WCO.0000000000000446 .

The role of aquaporin-4 (AQP4) antibodies as diagnostic markers for neuromyelitis optica spectrum disorders (NMOSD) is well established, the role of MOG antibodies is not so clear. Findings from predominantly European cohorts contradict the previous assumption that MOG antibodies are associated with a milder and monophasic variant of NMOSD . In pediatric patients, MOG antibodies are more often associated with monophasic disease than in adults and have been found in patients previously diagnosed with ADEM, MDEM, ADEM associated with recurrent optic neuritis, recurrent optic neuritis, or pediatric MS. In adults, MOG antibodies are found in patients with (mostly recurring) optic neuritis, longitudinally extensive or non-extensive myelitis, brainstem encephalitis, and/ or encephalitis, with optic neuritis being the most common single manifestation. Given the relapsing and often severe disease course of MOG antibody associated optic neuritis and myelitis, immunosuppressive treatments should be considered in relapsing cases.

MOG antibody positivity is increasingly considered by many to denote a disease entity in its own right with significant clinical and radiological overlap with classical MS and AQP4 antibody-positive NMOSD but distinct neuropathology.

DPPX antibody–associated encephalitis Main syndrome and antibody effects
Hara M, Ariño H, Petit-Pedrol M, Sabater L, Titulaer MJ, Martinez-Hernandez E, Schreurs MW, Rosenfeld MR, Graus F, Dalmau J.
Neurology. 2017 Mar 3. pii: 10.1212/WNL.0000000000003796. doi: 10.1212/WNL.0000000000003796.

In 2013, 4 patients with a disorder that occurs with antibodies against dipeptidylpeptidase–like protein 6 (DPPX), a regulatory protein of the Kv4.2 potassium channel was described. This case series reports further 9 patients. All developed severe prodromal weight loss or diarrhea followed by cognitive dysfunction (9), memory deficits (5), CNS hyperexcitability (8; hyperekplexia, myoclonus, tremor, or seizures), or brainstem or cerebellar dysfunction (7). All patients were treated with immunotherapy. Four had substantial recovery (mRS score 0–1), 3 had mild disability (mRS score 2), 1 patient did not improve (remained bed bound; mRS score 5), and 1 patient died.

Conclusion: DPPX antibodies are predominantly IgG1 and IgG4 and associate with cognitive-mental deficits and symptoms of CNS hyperexcitability that are usually preceded by diarrhea, other gastrointestinal symptoms, and weight loss. The disorder is responsive to immunotherapy, and this is supported by the reversibility of the antibody effects in cultured neurons.

The complexity of atrial fibrillation newly diagnosed after ischemic stroke and transient ischemic attack: advances and uncertainties.
Cerasuolo JO, Cipriano LE, Sposato LA.
Curr Opin Neurol. 2017 Feb;30(1):28-37. doi: 10.1097/WCO.0000000000000410.

Increasing physicians' awareness about atrial fibrillation and substantial improvements in cardiac monitoring technologies have led to an increase in the number of patients diagnosed with atrial fibrillation after ischemic stroke and transient ischemic attack (TIA). Atrial fibrillation detected after stroke and TIA (AFDAS) may differ from atrial fibrillation already known before stroke occurrence. Preexisting but newly diagnosed atrial fibrillation is most likely caused by prestroke cardiac structural changes, and thus, the arrhythmia could be considered as predominantly 'cardiogenic'. Newly diagnosed atrial fibrillation may be the consequence of the stroke itself and therefore could be regarded as primarily 'neurogenic'. Half of all atrial fibrillations in ischemic stroke and TIA patients are AFDAS, and most of them are asymptomatic. Over 50% of AFDAS paroxysms last less than 30 s.

The prognosis of AFDAS and its risk of recurrent stroke are still unknown; therefore, it is uncertain whether AFDAS patients should be treated with oral anticoagulants.

Hyperglycemia predicts poststroke infections in acute ischemic stroke.
Zonneveld TP, Nederkoorn PJ, Westendorp WF, Brouwer MC, van de Beek D, Kruyt ND; PASS Investigators. Neurology. 2017 Mar 10. pii: 10.1212/WNL.0000000000003811. doi: 10.1212/WNL.0000000000003811.

Data from the acute ischemic stroke patients in the Preventive Antibiotics in Stroke Study (PASS), a multicenter randomized controlled trial (n = 2,550) investigating the effect of preventive antibiotics on functional outcome was used to see if hyperglycemia predicted poststroke infections in non-diabetics. Infections were considered stroke associated if they occurred within 1 week after stroke onset.

Hyperglycemia (≥7.8 mmol/L) was associated with poststroke infection (adjusted odds ratio [aOR] 2.31, 95% CI 1.31–4.07), worse 3-month functional outcome (common [aOR] 1.40, 95% CI 1.12–1.73), and 3-month mortality ([aOR] 2.11, 95% CI 1.40– 3.19).

Conclusion: In nondiabetic acute ischemic stroke patients, admission hyperglycemia is associated with poststroke infection and worse functional outcome

Efficacy and safety of ticagrelor versus aspirin in acute stroke or transient ischaemic attack of atherosclerotic origin: a subgroup analysis of SOCRATES, a randomised, double-blind, controlled trial
Amarenco P, Albers GW, Denison H, Easton JD, Evans SR, Held P, Hill MD6, Jonasson J, Kasner SE, Ladenvall P, Minematsu K, Molina CA, Wang Y, Wong KS, Johnston SC; SOCRATES Steering Committee and Investigators.
Lancet Neurol. 2017 Feb 23. pii: S1474-4422(17)30038-8. doi: 10.1016/S1474-4422(17)30038-8.

Ticagrelor is a platelet aggregation inhibitor which acts as an antagonist of the P2Y12 receptor. It is an effective antiplatelet therapy for patients with coronary atherosclerotic disease. SOCRATES was a randomised, double-blind, controlled trial of ticagrelor vs aspirin in patients aged ≥ 40 years with a non-cardioembolic, non-severe acute ischaemic stroke, or high-risk transient ischaemic attack from 674 hospitals in 33 countries. Patients were randomized to ticagrelor (180 mg loading dose on day 1 followed by 90 mg twice daily for days 2-90, given orally) or aspirin (300 mg on day 1 followed by 100 mg daily for days 2-90, given orally) within 24 h of symptom onset. Hundred and three (6·7%) of 1542 patients with ipsilateral stenosis in the ticagrelor group and 147 (9·6%) of 1539 patients with ipsilateral stenosis in the aspirin group had an occurrence of stroke, myocardial infarction, or death within 90 days (hazard ratio 0·68 [95% CI 0·53-0·88]; p=0·003).

Conclusion: Overall, findings from the trial did not show that ticagrelor was better than aspirin for prevention of stroke, myocardial infarction, or death in patients with transient ischaemic attack and minor stroke. However, ticagrelor was superior to aspirin at preventing stroke, myocardial infarction, or death at 90 days in patients with acute ischaemic stroke or transient ischaemic attack when associated with ipsilateral atherosclerotic stenosis.