Highlight in Epilepsy 2011

รศ.นพ. คณิตพงษ์ ปราบพาล
หน่วยประสาทวิทยา ภาควิชาอายุรศาสตร์
คณะแพทยศาสตร์ ม. สงขลานครินทร์

- Research
- Guideline
- Review
- Congress
- Thailand vs. Other country

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Pharmacotherapy

New onset epilepsy	Refractory epilepsy	Status epilepticus
Conventional AED	New AED	Conventional AED
New AED	Surgery	New AED
	Stimulation	

Refractory epilepsy

Stimulation

1. Morrell et al. Responsive cortical stimulation for the treatment of medically intractable partial epilepsy. Neurology 2011; 77: 1295-304

Epileptic surgery

1. Engel et al. Early surgical therapy for drug-resistant temporal lobe epilepsy: a randomized trial. JAMA 2012; 307: 922-30.

Pharmacotherapy

1. French et al. Lamotrigine XR conversion to monotherapy: first study using a historical control group Neurotherapeutics 2012; 9: 176-84.
2. Ng et al. Randomized, phase III study results of clobazam in LGS Neurology 2011; 77: 1473-81.
3. Zhang et al. Topiramate as an adjunctive treatment for refractory partial epilepsy in the elderly. J Int Med Res 2011; 39: 408-15.
4. Verrotti et al. Efficacy of rufinamide in drug-resistant epilepsy: a meta-analysis. Pediatr Neurol 2011; 44: 347-9.
5. French et al. Randomized, double-blind, placebo-controlled trial of ezogabine (retigabine) in partial epilepsy. Neurology 2011; 76: 1556-63.
6. Lu et al. Efficacy and safety of adjunctive zonisamide in adult patients with refractory in adult patients with refractory partial-onset epilepsy: a randomized, double-blind, placebo-controlled trial. Clin Drug Investig 2011; 31: 221-9.
7. Biton et al. A randomized, double-blind, placebo-controlled, parallel-group study of rufinamide as adjunctive therapy for refractory partial-onset seizure. Epilepsia 2011; 52: 234-42.

Status epilepticus

1. Sibergleit et al. Intramuscular versus intravenous therapy for prehospital status epilepticus N Engl J Med 2012; 366: 591-600.
2. Navarro et al. A prehospital randomized trial in convulsive status epilepticus Epilepsia 2011; Suppl 8: 48-9.
3. Chen et al. Valproate versus diazepam for generalized convulsive status epilepticus: a pilot study. Eur J Neurol 2011; 18: 1391-6.
4. Rossetti et al. A randomized trial for the treatment of refractory status epilepticus. Neurocrit Care 2011; 14: 4-10.

New onset epilepsy

1. Kwan et al. Efficacy and safety of pregabalin versus lamotrigine in patients with newly diagnosed partial seizure: a phase 3, double-blind, randomised, parallel-group trial. Lancet Neurol 201; 10: 881-90.

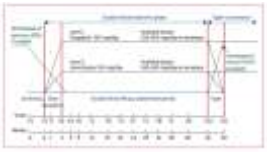
2. Fattore et al. A multicenter, randomized, placebo-controlled trial of levetiracetam in children and adolescents with newly diagnosed absence epilepsy. Epilepsia 2011; 52: 802-9.

Efficacy and safety of pregabalin versus lamotrigine in patients with newly diagnosed partial seizures: a phase 3, double-blind, randomised, parallel-group trial

Lancet Neurol 2011; 10: 881-90

: Newly diagnosed epilepsy (> 16 yrs.) with seizure ≥ 2 in 12 months
: Europe and Asia
: Pregabalin 150 mg/d VS. Lamotrigine 100 mg/d

Primary endpoint
proportion of patients who remained seizure-free for ≥ 6 months
Secondary endpoint
time to exist because of lack of efficacy (adverse event. any reason)
time to 6 months seizure freedom
tine to first seizure after dose-escalation phase
number of seizure during the dose-escalation
monthly seizure frequency
HAD
MOS-Sleep (Medical Outcome Sleep Study Scale)
Adverse event
: 314/330 in pregabalin : 308/330 in lamotrigine



Efficacy and safety of pregabalin versus lamotrigine in patients with newly diagnosed partial seizures: a phase 3, double-blind, randomised, parallel-group trial

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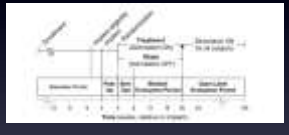
Responsive cortical stimulation for the treatment of medically intractable partial epilepsy



18-70 years
not been controlled ≥ 2
≥ 3 disabling seizure / month
localized 1 or 2 epileptogenic regions

Endpoint
seizure frequency
safety

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Intramuscular versus Intravenous Therapy for Prehospital Status Epilepticus

- Children with BW ≥ 13 kg. and adult
- Convulsive seizure > 5 min.
- Drug Kit
  - BW ≥ 40 kg. IM midazolam 10 mg or IV lorazepam 4 mg
  - BW 13-40 kg. IM midazolam 2 mg or IV lorazepam 2 mg
- Primary outcome
  - termination of seizure before arrival in the ER
- Secondary outcome
  - time from study-box opening to termination of convulsions
  - time from initiation of active-drug administration to termination of seizure
  - the frequency and duration of hospitalization and of admission to the ICU
  - the frequency of acute ET and acute seizure recurrence

Intramuscular versus Intravenous Therapy for Prehospital Status Epilepticus

CONCLUSIONS

For subjects in status epilepticus, intramuscular midazolam is at least as safe and effective as intravenous lorazepam for prehospital seizure cessation. (Funded by the National Institute of Neurological Disorders and Stroke and others; ClinicalTrials.gov number, NCT00809146.)

Proportion of subjects admitted was significantly lower in the IM group than in IV group.
Median time to administration of active treatment was significantly shorter by the IM than IV
Onset of action occurred sooner after IV than after IM

Status epilepticus

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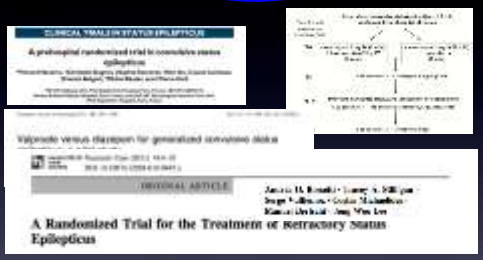
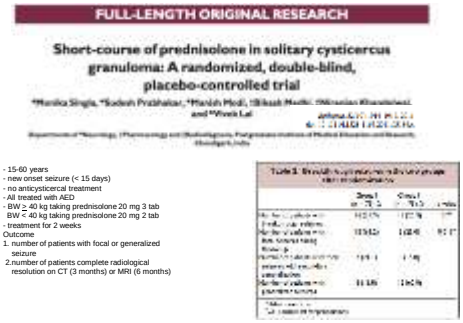
Status epilepticus



A Randomized Trial for the Treatment of Refractory Status Epilepticus

Prevention

1. Singla et al. Short-course of prednisolone in solitary cysticercus granuloma: a randomized, double-blind, placebo-controlled trial. Epilepsia 2011; 52: 1914-7.
2. Gilad et al. Are post intracracerebral hemorrhage seizure prevented by anti-epileptic treatment? Epilepsy Res 2011; 95: 227-31.
3. van Tuijl et al. Early treatment after stroke for the prevention of late epileptic seizure: a report on the problems performing a randomised placebo-controlled, double-blind trial aimed at antiepileptogenesis. Seizure 2011; 20: 285-91.



FULL-LENGTH ORIGINAL RESEARCH

Short-course of prednisolone in solitary cysticercus granuloma: A randomized, double-blind, placebo-controlled trial

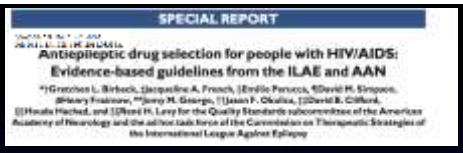
- 15-60 years
- new onset seizure (< 15 days)
- no anticysticercal treatment
- All treated with AED
- BW > 40 kg taking prednisolone 20 mg 3 tab
  BW < 40 kg taking prednisolone 20 mg 2 tab
- treatment for 2 weeks

Outcome
1. number of patients with focal or generalized seizure
2. number of patients complete radiological resolution on CT (3 months) or MRI (6 months)

Long term outcome and complication from AED

1. Leone et al. Treatment of first tonic-clonic seizure does not affect mortality: long-term follow-up of a randomized clinical trial. J Neurol Neurosurg Psychiatry 2011; 82: 924-7.
2. Arya et al. Folic acid supplementation prevents phenytoin-induced gingival overgrowth in children. Neurology; 2011 76: 1338-43.
3. Baker et al. Newly diagnosed epilepsy: cognitive outcome after 12 months. Epilepsia 2011; 52: 1084-91.
4. Loring et al. Topiramate dose effects on cognition: a randomized double-blind study. Neurology 2011; 76: 131-7.

Guideline and Consensus



SPECIAL REPORT

Antiepileptic drug selection for people with HIV/AIDS: Evidence-based guidelines from the ILAE and AAN

Dose concurrent treatment with AEDs and ARVs lead to drug interactions? If so, are these interactions clinically meaningful?

What is the evidence for an interaction between AEDs and proteaase inhibitor (PI) ARV?

Phenytoin: impact on lopinavir/ritonavia

Stiripentol: impact on saquinavir

Valproaic acid: impact on lopinavir, atazanavia and ritonavir

Atazanavir and atazanavir/ritonavir: impact on lamotrigine

Lopinavir/ritonavir: impact on lamotrigine

Lopinavir/ritonavir: impact on Phenytoin

Lopinavir/ritonavir: impact on valproic acid

What is the evidence for an interaction between AEDs and integrase inhibitors ?

Raltegravir: impact on lamotrigine

Raltegravir: impact on midazolam

What is the evidence for an interaction between NRTI and NNRTI?

Benzodiazepines: impact on zidovudine

Carbamazepine: impact on efavirenz

Carbamazepine: impact on nevirapine

Phenobarbital: impact on nevirapine

Phenytoin: impact on nevirapine

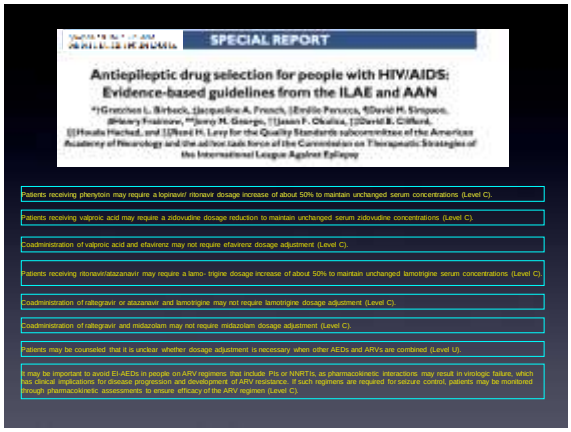
Valproaic acid: impact on efavirenz

Valproic acid: impact on zidovudine

Efavirenz: impact on carbamazepine

Efavirenz: impact on valproic acid

Zidovudine: impact on valproic



SPECIAL REPORT

Antiepileptic drug selection for people with HIV/AIDS: Evidence-based guidelines from the ILAE and AAN

*†Gretchen L. Birbeck, ‡Jacqueline A. French, §Emilio Perucca, ¶David M. Simpson, #Henry Fraimow, **Jerry M. George, ††Jason F. Okulicz, ‡‡David B. Clifford, §§Nicola Hachad, and ¶¶René H. Levy for the Quality Standards subcommittee of the American Academy of Neurology and the ad hoc task force of the Commission on Therapeutic Strategies of the International League Against Epilepsy

Patients receiving phenytoin may require a lopinavir/ritonavir dosage increase of about 50% to maintain unchanged serum concentrations (Level C).

Patients receiving valproic acid may require a zidovudine dosage reduction to maintain unchanged serum zidovudine concentrations (Level C).

Coadministration of valproic acid and efavirenz may not require efavirenz dosage adjustment (Level C).

Patients receiving ritonavir/atazanavir may require a lamo- trigine dosage increase of about 50% to maintain unchanged lamotrigine serum concentrations (Level C).

Coadministration of raltegravir or atazanavir and lamotrigine may not require lamotrigine dosage adjustment (Level C).

Coadministration of raltegravir and midazolam may not require midazolam dosage adjustment (Level C).

Patients may be counseled that it is unclear whether dosage adjustment is necessary when other AEDs and ARVs are combined (Level U).

It may be important to avoid EI-AEDs in people on ARV regimens that include PIs or NNRTIs, as pharmacokinetic interactions may result in virologic failure, which has clinical implications for disease progression and development of ARV resistance. If such regimens are required for seizure control, patients may be monitored through pharmacokinetic assessments to ensure efficacy of the ARV regimen (Level C).

SPECIAL REPORT

International consensus clinical practice statements for the treatment of neuropsychiatric conditions associated with epilepsy

*Mike P. Kerr, †Seth Mensah, ‡Frank Besag, §Bertrand de Toffol, ¶Alan Ettinger, #Kazuhiko Kanemoto, **Andres Kanner, ††Steven Kemp, ‡‡Ennapadam Krishnamoorthy, §§W. Curt LaFrance Jr, ¶¶Marco Mula, ##Bettina Schmitz, ***Ludgero Tolosa van Elst, †††Julian Trollor, and ‡‡‡Sarah J. Wilson

SPECIAL REPORT

Epilepsy imaging study guideline criteria: Commentary on diagnostic testing study guidelines and practice parameters

*†William D. Gaillard, ‡‡ Helen Cross, §John S. Duncan, ¶Hermann Stefan, ††William H. Theodore, and Task Force on Practice Parameter Imaging Guidelines for the International League Against Epilepsy, Commission for Diagnostics

BMJ

PRACTICE

NICE epilepsy guidance "may be detrimental to patient care"

New NICE guidelines on epilepsies have come under fire by several experts who say that they do not reflect clinical experience and focus too much on drug cost effectiveness. David Holmes reports.

Cross clinical adviser to the guideline[1] The Prince of Wales's chair of childhood epilepsy[1]

Mechanisms of epileptogenesis and potential treatment targets

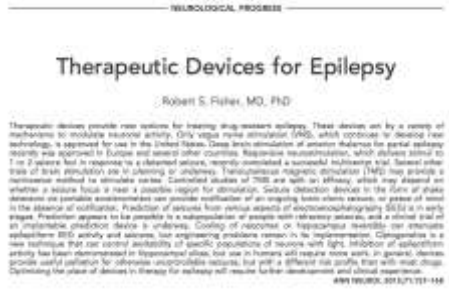
Management of refractory status epilepticus in adults: still more questions than answers

HISTORICAL REVIEW

The causes of epilepsy: Changing concepts of etiology of epilepsy over the past 150 years

Simon D. Shorvon

UCL Institute of Neurology, University College London, London, United Kingdom



NEUROLOGICAL PROGRESS

Therapeutic Devices for Epilepsy

Robert S. Fisher, MD, PhD

Research in Thailand

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Research in Thailand

Research in Thailand

Research in Thailand

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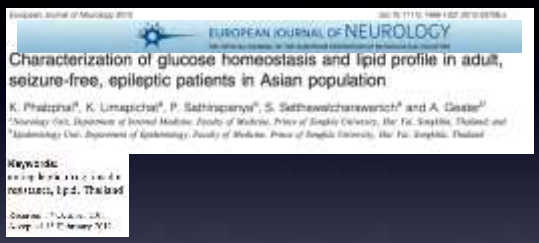
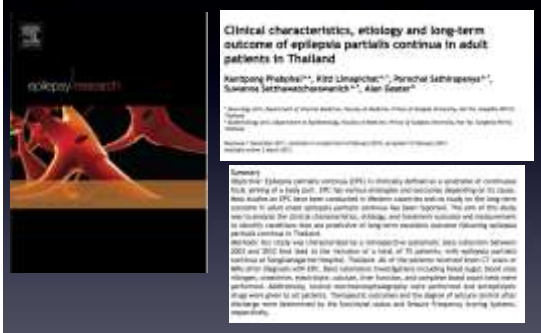


Research in Thailand



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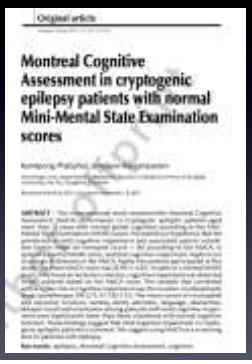

Original article

Montreal Cognitive Assessment in cryptogenic epilepsy patients with normal Mini-Mental State Examination scores