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BRIEF COMMUNICATIONS

Online only: The following articles can be accessed in the electronic version of this issue at onlinelibrary.wiley.com

e161
Provocative induction of psychogenic nonepileptic seizures: Noninferiority of an induction technique without versus with placebo
David K. Chen, Hina Dave, Kareem Gadelmola, Myrtle Jeroudi, and Melissa Fadipe
doi: 10.1111/epi.14570; Published online: 01 October 2018

One-hundred-seventy consecutive patients with suspected psychogenic nonepileptic seizures (PNES) who underwent induction with placebo were pair-matched with 170 consecutive patients with suspected PNES who underwent the same induction technique but without addition of placebo. The success rates of induction were 79.4% without vs. 73.5% with placebo. The lower bound of 95% confidence interval (–3.6%) for the difference of these two proportions was above the non-inferiority margin ($\delta = -5\%$), inferring non-inferiority of induction without vs. with placebo. Induction without placebo should be the preferred diagnostic approach, given more ethically acceptable transparency and the non-inferior success rate.

e166
Effects of galanin receptor 2 and receptor 3 knockout in mouse models of acute seizures
Meinrad Drexel, Felix Locker, Barbara Kofler, and Günther Sperk
doi: 10.1111/epi.14573; Published online: 08 October 2018

The neuropeptide galanin has potent anticonvulsive properties mediated by galanin-1 (GAL1-R) and galanin-2 receptors (GAL2-R). We now report that depletion of the recently characterized GAL3-R neither affects seizures induced by intrahippocampal kainic acid nor by intraperitoneal pentylenetetrazole. In contrast, depletion of GAL2-R significantly increased the number of seizures and time spent in seizures induced by kainic acid but not the latency to the first seizure and the duration of seizures. It, however, did not alter the properties of pentylenetetrazole-induced seizures. Our data support a specific role of GAL2-R but not of GAL3-R in mediating the anticonvulsive actions of endogenous galanin.

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Perampanel and decanoic acid show synergistic action against AMPA receptors and seizures
Katrin Augustin, Sophie Williams, Mark Cunningham, Anita M. Devlin, Maximilian Friedrich, Ashan Jayasekera, Mohammed A. Hussain, Damian Holliman, Patrick Mitchell, Alistair Jenkins, Philip E. Chen, Matthew C. Walker, and Robin S.B. Williams
doi: 10.1111/epi.14578; Published online: 15 October 2018

Both the pharmacological epilepsy treatment perampanel, and a medium chain fatty acid present in the MCT ketogenic diet, decanoic acid, function through inhibition of AMPA receptors, at different putative sites. As a consequence, these two compounds have a synergistic effect, so that combinatory treatment enhances AMPA receptor inhibition and suppresses seizure activity in a rat hippocampal seizure model, and in an ex vivo human brain slice model of seizure-related activity. These data support the further investigation of combinatory use of perampanel and MCT dietary fatty acids in seizure control.

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