

BRAIN STIMULATION

Basic, Translational, and Clinical Research in Neuromodulation

Table of Contents

Volume 12, Number 5, September/October 2019

Review Article

- 1101 Vagus Nerve Stimulation in Refractory and Super-refractory Status Epilepticus – A Systematic Review
Maxine Dibué-Adjei, Francesco Brigo, Takamichi Yamamoto, Kristl Vonck, and Eugen Trinko

Deep Brain Stimulation (DBS)

Original Articles

- 1111 Adverse Events Associated With Deep Brain Stimulation in Patients With Childhood-onset Dystonia
A. Koy, N. Bockhorn, A.A. Kühn, G.-H. Schneider, P. Krause, K. Lauritsch, K. Witt, S. Paschen, G. Deuschl, J.K. Krauss, A. Saryyeva, J. Runge, I. Borggraefe, J.H. Mehrkens, A. Horn, J. Vesper, A. Schnitzler, S. Siegert, M. Freilinger, M. Eckenweiler, V.A. Coenen, V. Tadic, J. Voges, K.A.M. Pauls, J. Wirths, L. Timmermann, M. Hellmich, and on behalf of the GEPESTIM consortium

- 1121 The Role of the Dorsal Anterior Insula in Ecstatic Sensation Revealed by Direct Electrical Brain Stimulation
F. Bartolomei, S. Lagarde, D. Scavarda, R. Carron, C.G. Bénar, and F. Picard

- 1127 Directional Stimulation of Subthalamic Nucleus Sweet Spot Predicts Clinical Efficacy: Proof of Concept
T.A. Khoa Nguyen, Andreas Nowacki, Ines Debove, Katrin Petermann, Gerd Tinkhauser, Roland Wiest, Michael Schüpbach, Paul Krack, and Claudio Pollo

Electroconvulsive Therapy (ECT)

Original Article

- 1135 The Effect of Electroconvulsive Therapy (ECT) on Serum Tryptophan Metabolites
Tore Ivar Aarsland, Ieva Leskauskaite, Øivind Middtun, Arve Ulvik, Per Magne Ueland, Leif Olstedal, Vera Jane Erchinger, Ketil Joachim Oedegaard, Jan Haavik, and Ute Kessler

Table of Contents continued on page A4

On the Cover: Schematic Representation of FUS-mediated GDNFp-liposomes (GDNFp-LPs) Delivery for Treatment of HD Transgenic Mice.

From: Focused Ultrasound-Induced Blood Brain-Barrier Opening Enhanced Vascular Permeability for GDNF Delivery in Huntington's Disease Mouse Model, Page 1143.

New Approachs

Original Article

- 1143 Focused Ultrasound-induced Blood Brain-barrier Opening Enhanced Vascular Permeability for GDNF Delivery in Huntington's Disease Mouse Model
Chung-Yin Lin, Chih-Hung Tsai, Li-Ying Feng, Wen-Yen Chai, Chia-Jung Lin, Chiung-Yin Huang, Kuo-Chen Wei, Chih-Kuang Yeh, Chiung-Mei Chen, and Hao-Li Liu

VNS/Vestibular

Original Article

- 1151 Cardiovascular Autonomic Effects of Transcutaneous Auricular Nerve Stimulation Via the Tragus in the Rat Involve Spinal Cervical Sensory Afferent Pathways
K.M. Mahadi, V.K. Lall, S.A. Deuchars, and J. Deuchars

Transcranial Direct Current Stimulation (tDCS) / Transcranial Alternating Current Stimulation (tACS) / Transcranial Random Noise Stimulation (tRNS)

Original Articles

- 1159 Towards Precise Brain Stimulation: Is Electric Field Simulation Related to Neuromodulation?
Daria Antonenko, Axel Thielscher, Guilherme Bicalho Saturnino, Semiha Aydin, Bernd Ittermann, Ulrike Grittner, and Agnes Flöel
- 1169 Cerebellar Transcranial Direct Current Stimulation Modulates the fMRI Signal in the Cerebellar Nuclei in a Simple Motor Task
Michael Küper, Jahan Saeed Mallick, Thomas Ernst, Oliver Kraff, Markus Thürling, Maria Roxana Stefanescu, Sophia Göricke, Michael A. Nitsche, and Dagmar Timmann
- 1177 Effects of Cerebellar Transcranial Direct Current Stimulation on Cerebellar-brain Inhibition in Humans: A Systematic Evaluation
Giorgi Batsikadze, Zeynab Rezaee, Dae-In Chang, Marcus Gerwig, Stefan Herlitze, Anirban Dutta, Michael A. Nitsche, and Dagmar Timmann

- 1187 Modulation of Large-scale Cortical Coupling by Transcranial Alternating Current Stimulation
Bettina C. Schwab, Jonas Misselhorn, and Andreas K. Engel
- 1197 Antidepressant Effects of TDCS Are Associated With Prefrontal Gray Matter Volumes at Baseline: Evidence From the ELECT-TDCS Trial
Lucia Bulubas, Frank Padberg, Priscila V. Bueno, Fabio Duran, Geraldo Busatto, Edson Amaro Jr., Isabela M. Benseñor, Paulo A. Lotufo, Stephan Goerigk, Wagner Gattaz, Daniel Keeser, and Andre R. Brunoni
- 1205 Combining Reward and M1 Transcranial Direct Current Stimulation Enhances the Retention of Newly Learnt Sensorimotor Mappings
Danny A. Spampinato, Zabina Satar, and John C. Rothwell
- 1213 Modulation of Creativity by Transcranial Direct Current Stimulation
Elisabeth Hertenstein, Elena Waibel, Lukas Frase, Dieter Riemann, Bernd Feige, Michael A. Nitsche, Christoph P. Kaller, and Christoph Nissen
- 1222 Effects of 6-month At-home Transcranial Direct Current Stimulation on Cognition and Cerebral Glucose Metabolism in Alzheimer's Disease
Jooyeon Jamie Im, Hyeonseok Jeong, Marom Bikson, Adam J. Woods, Gozde Unal, Jin Kyoung Oh, Seunghee Na, Jong-Sik Park, Helena Knotkova, In-Uk Song, and Yong-An Chung

Transcranial Magnetic Stimulation (TMS)

Original Articles

- 1229 Somatosensory-motor Cortex Interactions Measured Using Dual-site Transcranial Magnetic Stimulation
Matt J.N. Brown, Anne Weissbach, Martje G. Pauly, Michael Vesia, Carolyn Gunraj, Julianne Baarbé, Alexander Münchau, Tobias Bäumer, and Robert Chen
- 1244 Neuronal Tuning: Selective Targeting of Neuronal Populations Via Manipulation of Pulse Width and Directionality
I. Halawa, Y. Shirota, A. Neef, M. Sommer, and W. Paulus
- 1253 Contextual Cues as Modifiers of CTBS Effects on Indulgent Eating
Adrian B. Safati, and Peter A. Hall

- 1261 No Trace of Phase: Corticomotor Excitability is Not Tuned by Phase of Pericentral Mu-rhythm
Kristoffer Hougaard Madsen, Anke Ninija Karabanov, Lærke Gebser Krohne, Mads Gylling Safeldt, Leo Tomasevic, and Hartwig Roman Siebner
- 1271 The Influence of Endogenous Estrogen on High-frequency Prefrontal Transcranial Magnetic Stimulation
Sung Wook Chung, Cassandra J. Thomson, Susan Lee, Roisin N. Worsley, Nigel C. Rogasch, Jayashri Kulkarni, Richard H. Thomson, Paul B. Fitzgerald, and Rebecca A. Segrave
- 1280 A Fast and General Method to Empirically Estimate the Complexity of Brain Responses to Transcranial and Intracranial Stimulations
Renzo Comolatti, Andrea Pigorini, Silvia Casarotto, Matteo Fecchio, Guilherme Faria, Simone Sarasso, Mario Rosanova, Olivia Gosseries, Mélanie Boly, Olivier Bodart, Didier Ledoux, Jean-François Brichant, Lino Nobili, Steven Laureys, Giulio Tononi, Marcello Massimini, and Adenauer G. Casali
- 1290 Stimulation Over the Cerebellum With a Regular Figure-of-eight Coil Induces Reduced Motor Cortex Inhibition in Patients With Progressive Supranuclear Palsy
Alberto Benussi, Valentina Dell’Era, Valentina Cantoni, Rosanna Turrone, Andrea Pilotto, Antonella Alberici, Maria Sofia Cotelli, Cristina Rizzetti, Alessandro Padovani, and Barbara Borroni
- Letters to the Editor**
- 1298 Habenula Deep Brain Stimulation for Refractory Bipolar Disorder
Chencheng Zhang, Seung-Goo Kim, Dianyou Li, Yingying Zhang, Yan Li, Andreas Husch, Frank Hertel, Fuhua Yan, Valerie Voon, and Bomin Sun
- 1301 No Additive Meta Plasticity Effects of Accelerated ITBS With Short Inter-session Intervals
Alix C. Thomson, Tom A. de Graaf, Gunter Kenis, Bart P.F. Rutten, Teresa Schuhmann, and Alexander T. Sack
- 1304 Posterior Subthalamic Area Deep Brain Stimulation for Treatment of Tremor and Dystonia in Wilson’s Disease
Hu Liang Low, Sian K. Alexander, Anjum Misbahuddin, and Godfrey T. Gillett
- 1307 Artificial Grammar Learning With Transcranial Direct Current Stimulation (tDCS): A Pilot Study
Ellyn A. Riley, and Ying Wu
- 1309 A Single Session of Bihemispheric Transcranial Direct Current Stimulation Does Not Improve Quadriceps Muscle Spasticity in People With Chronic Stroke
Thomas Cattagni, Maxime Geiger, Anthony Supiot, Raphaël Zory, Didier Pradon, and Nicolas Roche
- 1312 MEG and Navigated TMS Jointly Enable Spatially Accurate Application of TMS Therapy at the Epileptic Focus in Pharmacoresistant Epilepsy
Mominul Islam, Karin Westin, Ana Carvalho, Mats Eriksson, Mikael Lundvall, Tommy Stödberg, Cecilia Adelöw, Daniel Lundqvist, Lau M. Andersen, Brian Nils Lundstrom, and Gerald Cooray
- 1315 Tolerability and Feasibility of Accelerated Repetitive Transcranial Stimulation for Reduction of Nicotine Craving
David Friedrich, Xingbao Li, Karen J. Hartwell, E. Baron Short, Gregory L. Sahlem, and Mark S. George
- 1317 Use of the Forced Swim Test to Assess “despair”
Emily R. Trunnell
- 1319 Safety, Tolerability and Effectiveness of a Novel 20 Hz RTMS Protocol Targeting Dorsomedial Prefrontal Cortex in Major Depression: An Open-label Case Series
Jean-Philippe Miron, Kfir Feffer, Robin F.H. Cash, Dorsa Derakhshan, John Min Seok Kim, Peter Fettes, Peter Giacobbe, Daniel M. Blumberger, Zafiris J. Daskalakis, and Jonathan Downar
- 1322 Theta Burst Stimulation for Tokophobia During Pregnancy
Madhuri H. Nanjundaswamy, Prateek Varshney, Milind Vijay Thanki, B. Arunya, Vindya Rai, Urvakhsh M. Mehta, Shyam Sundar Arumugham, Paulomi M. Sudhir, and Prabha S. Chandra
- 1325 Safety and Efficacy of Transcranial Direct Current Stimulation (tDCS) in the Treatment of Anorexia Nervosa. The Open-label STAR Study
R. Strumila, S. Thiebaut, I. Jaussent, M. Seneque, J. Attal, Ph Courtet, and S. Guillaume

- 1328 Repetitive Transcranial Magnetic Stimulation for Depression Relapse Or Recurrence: Naturalistic Retreatment Series Outcomes
Andrew M. Fukuda, Eric Tirrell, A. Polly Gobin, and Linda L. Carpenter
- 1330 Reply to Letter to the Editor “Adaptive DBS in Parkinson's Disease: Headlines, Perspectives and Challenges”
Anca Velisar, and Helen Bronte-Stewart
- 1332 Cortico-spinal TDCS in ALS: A Randomized, Double-blind, Sham-controlled Trial
Alberto Benussi, Antonella Alberici, Maria Sofia Cotelli, Valentina Dell’Era, Valentina Cantoni, Elisa Bonetta, Rosa Manenti, Massimiliano Filosto, Roberta Morini, Abhishek Datta, Chris Thomas, Alessandro Padovani, and Barbara Borroni
- 1335 Synchronized Transcranial Magnetic Stimulation for Posttraumatic Stress Disorder and Comorbid Major Depression
Noah S. Philip, Emily E. Aiken, Mary E. Kelley, William Burch, Laurie Waterman, and Paul E. Holtzheimer
- 1338 Bright Light Therapy and RTMS; Novel Combination Approach for the Treatment of Depression
Irakli Mania, and Jagdeep Kaur
- 1340 A Pilot Study of Repetitive Transcranial Magnetic Stimulation in Primary Progressive Aphasia
Seth A. Margolis, Elena K. Festa, George D. Papandonatos, Laura E. Korthauer, Meghan A. Gonsalves, Lindsay Oberman, William C. Heindel, and Brian R. Ott

- 1343 Repetitive Transcranial Magnetic Stimulation in a Case of Atypical Parkinsonism
Vanesa Pytel, Paloma Montero, Guillermo Mejías, Alfonso Delgado-Álvarez, Teresa Moreno-Ramos, Jorge Matías-Guiu, and Jordi A. Matías-Guiu

Corrigenda

- E165 Corrigendum to “Analytical Bias Accounts for Some of the Reported Effects of TACS on Auditory Perception” [Brain Stimul. 12 (4) (2019) 1001–1009]
Boateng Asamoah, Ahmad Khatoun, and Myles Mc Laughlin

Errata

- E166 Erratum to “Proceedings #54 and Abstract #148: Miniature, Easy-to-Use, Disposable EEG for the Emergency Department and Other Points of Care” 12 (2) E127–e128 and 12 (2) E50–e51
Samah Abdel Baki, and André A. Fenton
- E167 Erratum to ‘Electroconvulsive Stimulation Increases Astrocyte Marker GFAP in Mouse Hippocampus Regardless of Chronic Social Defeat Stress’ [12 (2) (March–April 2019) 543]
M. Kritzer, W. Rosario, J. Tharayil, C. Lai, P. Botros, A. Lowell, D. Cruz, R. Rodríguez, W. Wetsel, A. Peterchev, and D. Williamson

3rd International Brain Stimulation Meeting Abstract

- E168 Changes in Neuronal Oscillations Account for Working Memory Dynamics: EEG-tACS Study
Maria Ermolova, Valeria Belyaeva, Nikita Novikov, Boris Gutkin, Matteo Feurra, and Tommaso Fedele