

Cephalalgia

An International Journal of Headache

Abstracts of the 2013 International Headache Congress

International Headache Society and
American Headache Society

27–30 June 2013

John B. Hynes Veterans Memorial
Convention Center
Boston, MA



International
Headache Society

www.ihs-headache.org
<http://cep.sagepub.com>



stimulate only the ONs or the combined ON-SONS. Almost all (95%) used both frontal and occipital stimulation modes exclusively.

Conclusions: Combined ON-SONS provides effective therapy for some patients with intractable chronic migraine headaches. The degree of responsiveness reported here was markedly improved over that reported by most studies evaluating ONS alone, including the large multicenter (Medtronic, St. Jude) study groups. The data strongly supports the addition of SONS to ONS (alone) when evaluating these patients for PNS therapy.

P288

Neuromodulation: Model-Based Control of Cortical Excitability in Early and Late Aura Phase

M.A. Dahlem

Cardiovascular Physics Lab, Humboldt University Berlin, Berlin, Germany.

Objectives: We investigated statistical properties in a computational model to gain a dynamical understanding of spontaneous episodes of spreading depression (SD) and we suggest a novel neuromodulation approach by model-based control that prevents these episodes.

Background: SD is the key to the subtype of migraine with aura (MA). Computational, mathematical, and animal models of SD have been extensively investigated by many research groups. SD is a transient pattern forming cortical state. During the course of SD, the ion homeostasis is massively perturbed in the cortex by initially seizure-like discharges, followed by a nearly complete depletion of ion gradients across cell membranes. The recovery last several minutes.

Methods: We analyze spontaneous episodes of SD in computer simulations of localized SD wave fragments formed in the gyrified human cortex obtained by fMRI.

Results: The results supports the controversial idea that SD can have a causal relationship with the headache phase in migraine. In particular three predictions are discussed: (i) that the cascade initiating the pain phase depends on a sufficiently large area instantaneously affected by SD, (ii) that SD in migraine without aura (MO) is neither lasting long nor propagating far enough to cause noticeably aura symptoms because the initial perturbation covers a large area, and (iii) that only from a smaller ictogenic focus SD can break away and propagate as a localized wave. This would also explain, why, on average, the headache is reported to be less severe in MA than in MO.

Conclusions: Neuromodulation techniques that target SD waves must stimulate in the early and late phase of SD with different protocols to individually attack pathways of aura and pain formation.

P289

Safety and Efficiency of Supraorbital Transcutaneous Neurostimulation with the Cefaly® Device for Headache Treatment: Outcome of a Prospective Registry on 2,313 Patients

D. Magis¹, P. Rigaux², J.-Y. Migolet², S.L. Sava¹, T. Sasso D'Elia¹, J. Schoenen¹

¹Headache Research Unit, Department of Neurology, University of Liege, Liege, Belgium; ²STX Med, Herstal, Belgium.

Objectives: The objective of this short survey was to assess the satisfaction of patients using the supraorbital transcutaneous neurostimulator Cefaly® for headache prophylaxis and to record their self-reported adverse events.

Background: Supraorbital transcutaneous neurostimulation (STN) has recently demonstrated its efficacy over sham stimulation in episodic migraine prevention (1) but its safety and performance in larger cohorts of “all coming” headache sufferers are unknown.

Methods: The adverse events (AEs) and willingness to continue STN therapy were prospectively monitored in patients renting the Cefaly® device (STX-Med, Belgium) to treat their headaches. The evaluation was performed at the end of the rental period (40 or 80 days). Patients were coming from Belgium and France which are countries where the Cefaly® device is available as OTC for rent and sale.

Results: From September 2009 to June 2012, 2313 headache patients (1641 females, 672 males, aged 14-87 years) accepted to provide a follow-up after STN treatment (by phone call and/or email). Basically, all of them had been contacted as they had mentioned a regular triptan use prior to STN therapy; a majority was therefore likely to suffer from migraine. Among the 2313 users, 53.4% were satisfied with STN treatment and were willing to buy the Cefaly® device, while the other 46.6% stopped the therapy. Ninety-nine patients (ie 4.3%) reported one or more AEs but none of them were serious. A large majority (91%) could be anticipated and was likely to be related to the stimulation, and for 9% the relationship with STN was questionable (for example palpitations or panic attack during the night following a session of STN). The most

frequent AEs were local pain/intolerance to paresthesia (47 patients, ie 46%), sleep disorders (mostly sleepiness/fatigue, sometimes insomnia, 19 patients, ie 18.6%), headache occurrence after stimulation (12 patients, ie 11.7%) and local reactions related to STN (7 patients, ie 6.7%).

Conclusions: This registry of more than 2000 patients confirms that STN is a safe and well-tolerated technique. More than 50% of patients wanted to buy the device after the rental period, which emphasizes its probable effectiveness in a majority of them.

P290

There Is No Venostenotic Idiopathic Intracranial Hypertension without Papilledema in Headache Sufferers. Clinical Findings and CSF Pressure Measurements

M. Curcio¹, D. Salvino¹, M. Trimboli¹, M.R. Mazza¹, R. Paletta¹, A. Quattrone¹, F. Bono¹

¹Neurology, University Magna Graecia, Catanzaro, Italy.

Objectives: To determine the frequency and the clinical findings of non-venostenotic idiopathic intracranial hypertension (IIH) without papilledema (IIHWOP) in headache sufferers.

Background: Bilateral transverse sinus stenosis (BTSS) is common in patients with IIH with papilledema. However, it is less clear whether BTSS is always present in patients with IIHWOP.

Methods: In a prospective study from July 2010 to December 2012, 60 headache sufferers (51 men and 9 women, mean age 42 years, SD 13; mean BMI = 32, SD= 5) who fulfilled the diagnostic criteria for IIHWOP underwent 3D-PC MR venography of the brain the day before lumbar CSF pressure measurement. All patients underwent lumbar puncture (LP) in order to measure lumbar CSF opening pressure and to monitor CSF pressure for 1 h through a lumbar needle.

Results: Cerebral MR venography displayed BTSS in 37 (62%) out of 60 patients with established IIHWOP. While, 23 (38%) patients had normal appearances of both transverse sinuses. Comparing those patients with non-venostenotic IIHWOP vs venostenotic IIHWOP, there was difference in CSF opening pressure and mean CSF pressure. Moreover, chronic tension-type headache and tinnitus were more common in non-venostenotic patients.

Conclusions: Our findings highlight that non-venostenotic IIHWOP may occur in headache sufferers, suggesting

that BTSS is only one of the contributing factors in IIHWOP.

P291

Vertigo: Think Migraine

R. Rao¹, S. Lal², J. Sinacore³

¹Department of Primary Care, Loyola University Medical Center, Maywood, IL, USA; ²Department of Neurology, Loyola University Medical Center, Maywood, IL, USA; ³Dept of Epidemiology and Preventive Medicine, Loyola University, Maywood, IL, USA.

Objectives: This study aims to identify the clinical predictors of the diagnosis of migraine associated vertigo(MAV) amongst a group of patients who were referred for Electronystagmography.

Background: Vestibular cause is often suspected when vertigo is the presenting symptom. Bedside testing and ENG (Electronystagmography) are commonly used to diagnose vestibular causes of vertigo. When a vestibular cause is not found, clinicians often navigate the maze of non-vestibular causes of vertigo. In this scenario, one of the diagnostic possibilities that is worthy of consideration is MAV. In the past decade, MAV has drawn research interest to establish its validity as a clinical entity. This paper seeks to understand the clinical predictors of MAV amongst patients with vertigo.

Methods: The study was a retrospective chart study at a tertiary health center with electronic medical records. IRB approval was obtained. Data was requested from a computerized data base of people who have had an ENG performed between the time period of January 1, 2005 to December 30, 2010.

Of these, patient who were 18 yrs. or older with the presenting complaint of vertigo were included in the study. 128 patients met the inclusion criteria. Clinical diagnosis of MAV was gathered before ENG (stage 1), after ENG (stage 2) and at follow up visit (stage 3). Those who were diagnosed with MAV at stage 2 were managed with standard treatments for migraine, including abortive and/ or prophylactic treatments. The clinical predictors evaluated were age, gender, duration of vertigo, otic, neurologic and migraine associated symptoms at stage 1, ENG results, audiometry and neuroimaging results (when available). In addition, Pre ENG and Post ENG diagnosis of Migraine associated vertigo were studied as clinical predictors, to determine if ENG results influenced the final clinical diagnosis of MAV.