unclear, especially for patients with clozapine-resistant symptoms. Here, we proposed to use the same parameters of stimulation over the left temporoparietal junction than those we successfully used in patients with treatment-resistant major depressive disorder when targeting the dorso-lateral prefrontal cortex.

In an open label retrospective study, 14 participants with treatment-resistant hallucinations, including 9 under clozapine, received 30 sessions of 1 Hz rTMS (360 pulses per sessions delivered with 60 sec ‘on’ and 30 sec ‘off’ at 110% of the resting motor threshold. The 30 stimulations sessions were delivered over 3 consecutive weeks, 2 sessions per day. Stimulations were applied over the left temporoparietal junction according to 10/20 EEG system (halfway between T3 and P3).

After rTMS, a significant decrease of auditory verbal hallucinations was observed (-38.7% ± 31.8, p = 0.003). The beneficial effects were also significant in the 9 patients who received clozapine (-34.9% ± 28.38, p = 0.01) on the auditory hallucination rating scale (AHRs).

Accelerated, low frequency, rTMS with 30 sessions over 3 weeks, appears to be a suitable approach to decrease treatment-resistant auditory verbal hallucinations of schizophrenia, including in patients with clozapine-resistant symptoms. Results from the current retrospective study in the clinical settings need to be confirmed by large scale randomized sham-controlled trials.

Research Category and Technology and Methods
Clinical Research: 10. Transcranial Magnetic Stimulation (TMS)
Keywords: schizophrenia, hallucination, rTMS, accelerated

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Abstract key: PL- Plenary talks; S- Regular symposia oral; FS- Fast-Track symposia oral; OS- On-demand symposia oral; P- Posters

P1.038

SELF-ADMINISTERED TRANSCRANIAL DIRECT CURRENT STIMULATION AND PRESSURE PAIN SENSITIVITY IN OLDER ADULTS WITH KNEE OSTEOARTHRITIS PAIN

Hyochol Ahn 1, Geraldine Martorella 1, Lindsey Park 1, Duo Wang 1, Hongyu Miao 1, Kenneth Mathis 2, 1 Florida State University, USA; 2 University of Texas Health Science Center, USA

Abstract
Knee osteoarthritis (KOA) is the most common form of arthritis, which is one of the common causes of pain in older adults. Previous studies indicated transcranial direct current stimulation (tDCS) in the clinical setting was effective to reduce clinical pain in various populations, but no published studies have reported the efficacy of self-administered tDCS in older adults with KOA using randomized clinical study. Thus, the objective of this study was to evaluate the efficacy of tDCS on pressure pain sensitivity in adults with KOA pain. A total of 120 participants aged 50–85 years with KOA pain were randomly assigned to receive 15 daily sessions of 2 mA tDCS for 20 min (n = 60) or sham tDCS (n = 60) over 3 weeks with remote supervision. Pressure pain threshold (PPT) at the knee was measured by applying blunt mechanical pressure via a handheld digital pressure algometer. Increasing pressure was applied at a constant rate of 0.3 kgf/cm2/second. Participants were instructed to notify the experimenter when the sensation “first becomes painful” to assess the PPT. The results of the three trials were averaged to determine PPT. The mean age of 120 participants was 66 years (SD = 8.41) with 68.3% of females. All participants tolerated tDCS well without experiencing any serious adverse effects. Active tDCS significantly increased PPT compared to sham tDCS after completion of the fifteen daily sessions (Cohen’s d = 1.39; P-value < 0.0001). We demonstrated that self-administered tDCS was safe and reduced pressure pain sensitivity in older adults with KOA. These findings warrant further multisite large-scale research for various populations with chronic pain to substantiate our findings.

Research Category and Technology and Methods
Clinical Research: 9. Transcranial Direct Current Stimulation (tDCS)

Keywords: Pain, knee osteoarthritis, quantitative sensory testing, transcranial direct current stimulation

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P1.039

HYPER-SILENCE NETWORK AND HYPO-EXECUTIVE NETWORKS PREDICT A BETTER OUTCOME TO REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION: A COMBINING CUE-TASK AND RESTING STATE MRI

Xingbao Li, Kevin Caulfield, Karen Hartwell, Kathleen Brady, Mark George. Medical University of South Carolina, USA

Abstract
Background: Repetitive transcranial magnetic stimulation (rTMS) can reduce cue-elicited craving, decrease cigarette consumption, and increase the abstinence rate in tobacco use disorders (TUDs). We used functional magnetic resonance imaging (fMRI) to investigate the effect of 10 sessions of rTMS on cortical activity and neural networks in treatment-seeking smokers.

Methods: Smoking cue exposure fMRI scans were acquired before and after the 10 sessions of active or sham rTMS (10 Hz, 3000 pulses per session) to the left dorsal lateral prefrontal cortex (DLPFC) in 42 treatment-seeking smokers (≥10 cigarettes per day). The brain activity and the functional connectivity were compared before and after 10 sessions of rTMS.

Results: Ten sessions of rTMS significantly reduced the number of cigarettes consumed per day (62.93%) compared to sham treatment (39.43%) at the end of treatment (p = 0.027). fMRI results showed that the rTMS treatment increased brain activity in the dorsal anterior cingulate cortex (dACC) and DLPFC, but decreased brain activity in the bilateral medial orbitofrontal cortex (mOFC). A higher salience network (SN) connectivity and a lower executive control connectivity predict a better outcome of TMS treatment for smoking cessation. Resting-state fMRI data showed that hypo-SN and reward network (RN) predicted the outcome.

Conclusions: By increasing the brain activity in the dACC and prefrontal cortex and decreasing brain activity in the mOFC, 10 sessions of rTMS significantly reduced cigarette consumption. A higher salience connectivity and a lower executive control connectivity predict a better outcome of TMS treatment for smoking cessation. Resting-state data also predicts the outcome of rTMS by salience network and reward network.

Research Category and Technology and Methods
Translational Research: 10. Transcranial Magnetic Stimulation (TMS)
Keywords: smoking cessation, rTMS, fMRI, neural network

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P1.040

OPTIMAL PERIPHERAL NERVE STIMULATION INTENSITY FOR PAIRED ASSOCIATIVE STIMULATION WITH HIGH-FREQUENCY PERIPHERAL COMPONENT IN HEALTHY SUBJECTS

Markus Pohjonen, Anna-Lena Nyman, Erika Kivveskari, Jari Arokoski, Anastasia Shulga. Helsinki University Central Hospital Hospital Area, HELSINKI, Finland

Abstract
Background: Paired associative stimulation (PAS) with high-frequency peripheral nerve stimulation (PNS), called “high-PAS,” induces motor-evoked potential (MEP) potentiation in healthy subjects and improves muscle activity and independence in incomplete spinal cord injury patients. Data on optimal PNS intensity in PAS are scarce. In a high-PAS...