and tDCS in neuropsychiatric patients and healthy subjects have found promising results.
By combining neuroimaging and NIBS new functional models can be developed and compared in different health and pathology states, e.g. in the development of any given psychiatric disorder.
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S086

Cognitive enhancement in young healthy subjects using non-invasive brain stimulation and cognitive training

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Transcranial electrical stimulation (tES) is being widely investigated to understand and modulate human brain function. The interest in using tES to enhance cognitive abilities not only in patient populations but also in healthy individuals has grown in recent years. Specifically in combination with cognitive training tES has shown success in enhancing cognition. However, to date, we still know little about the impact of interindividual differences on intervention outcomes. A variety of tES techniques and their effects in combination with cognitive training, interactive effects of tES with baseline cognitive abilities and neurophysiological traits will be presented and following ramifications with regards to the development of individualised stimulation protocols will be discussed.
Disclosure of interest The author has not supplied his declaration of competing interest.

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S087

Corticospinal excitability predicts antidepressant response to rTMS

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Repetitive transcranial magnetic stimulation (rTMS) targeting the left dorsolateral prefrontal cortex (DLPFC) is a treatment option for patients with medication-resistant major depressive disorder (MDD). However, antidepressant response is variable and there are currently no response predictors with sufficient accuracy for clinical use. Here we report on results of an observational open-label study to determine whether the modulatory effect of 10 Hz motor cortex (MC) rTMS is predictive of the antidepressant effect of 10 Hz DLPFC rTMS. Fifty-one medication-resistant MDD patients were enrolled for a 10-day treatment course of DLPFC rTMS and antidepressant response was assessed according to post-treatment reduction of the 17-item Hamilton Rating Scale for Depression score. Prior to treatment, we assessed the modulation of motor evoked potential (MEP) amplitude by MC rTMS. We measured MEP's to single pulse TMS using surface electromyography, before and after MC rTMS, and calculated MEP modulation as the change of mean MEP amplitude after MC rTMS. MEP modulation proved to be a robust predictor of reduction of clinician-rated depression severity following the course of DLPFC rTMS: larger MC rTMS-induced increase of corticospinal excitability anticipated a better antidepressant response. These findings suggest that MC rTMS-induced modulation of corticospinal excitability warrants further evaluation as a potential predictive biomarker of antidepressant response to left DLPFC 10 Hz rTMS, and could inform future developments of rTMS to treat depression.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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Symposium: Staging of psychiatric disorders: Integrating neurobiological findings

S088

Staging in bipolar disorder: Clinical, biochemical, and functional correlates

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In the field of bipolar disorder, some proposals of a staging model have been suggested considering the progressive features of the disorder. The staging model regards special features of the patients and further draws a route to define the prognosis and treatment as well as the neurobiological background of the disorder. The aim of this model is to identify rational therapeutic targets and provide the most effective and less toxic intervention in a time-sensitive manner. Advocating for a model of staging in bipolar disorder that can group the patients according to quantitative cut-offs of common practice clinical variables as well as defining a biochemical correlation seems to be a further step towards an operative and valid model of staging in bipolar disorder.
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S089

Staging & profiling in addiction, can we cross the gap from bench to bedside?

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Addictive behaviours are highly common (prevalence worldwide about 10%), with major impact on the individual and society (contributing to 5% of overall DALYs and mortality) [1,2]. Though a number of evidence-based treatments are available, relapse rates remain high, up to 50% within one year of treatment [3,4]. Staging of addictive behaviors might contribute to improve this prognosis by indicating which patient could benefit most from which treatment modality.
In DSM-5 clinical staging of addictive disorders is limited to grading the severity of the disorder, based on criterion counts [5]. However, addictive disorders are highly heterogeneous, with distinct clinical profiles and neurobiological underpinnings of the disorder. Reward-processing deficits are considered a hallmark of addiction. Several additional neurobiological deficits have been identified in addicted individuals, such as dysfunction of brain stress systems, anterior cingulate cortex and habenula.
These neurobiological deficits may identify clinical subgroups of patients with distinct pathophysiology (profiling), or be related to progression of the disorder (staging). This presentation will focus