Cognitive Biases and Depressive Symptoms

According to Beck's cognitive content-specific hypothesis, negative cognitive biases occur before and facilitate the onset of major depressive disorder. Evidence supports that patients with major depressive disorder show negative self-referential biases not only when experiencing an active episode but also before or after it. We already know that the cognitive biases do attenuate when patients are in remission. During the recovery process of the major depressive disorder, however, the temporal order and magnitude change of these two components are still unclear to us. In this talk, I'll share the idea about how cognitive biases influence the clinical course of major depressive disorder as well as my study design designated to explore the role of cognitive biases during recovery from major depression.
Keywords:
major depressive disorder (MDD), self-referential bias

The effect of the theta burst TMS revealed in brain oscillations of Treatment-Resistant Depression patients

Previous studies have shown the efficacy of theta-burst stimulation (TBS) in treatment-resistant depression (TRD) (Li et al., 2014; Li et al., 2018). However, the mechanisms of variant outcome of TBS treatment are still unclear. This study was conducted to investigate the diversity of the brain oscillations during resting state in TRD patients, control group and the variability between responder and non-responder to the TMS treatment. Up to now, we have recruited 38 TRD patients with the recurrent major depressive disorder who were randomly distributed to intermittent TBS group, repetitive TMS group, or sham TBS group. Each participant was involved in ten sessions treatment phase and recorded the resting state electroencephalography (EEG) before and after the treatment phase. The 17-item Hamilton depression rating scales (HDRS-17) and Clinical Global Impression-severity (CGI-S) evaluation were held by psychiatry doctors from Veterans General Hospital at the beginning, the 5th session and at the 12th week after initiation of the TMS treatment. The non-linear analytical method such as Holo-Hilbert spectral analysis (HHSA; Huang et al., 2016) was applied to the resting-state EEG data. This new analytical method provides not only the carrier frequency information but also the amplitude modulation which can represent the complex nonlinear signal more accurate. The preliminary results have shown that in the responder, the brain activities increased in the alpha frequency band in the right frontal area after iTBS while this result didn’t show in the non-responder. These results have indicated the individual difference toward the treatment effect in TRD patients. Furthermore, we aim to find biomarkers for the prediction of the treatment effect in TRD patients.