cortex (rIFC) stimulation preceding pre-supplementary motor area (pre-SMA) stimulation by 10 or 4 milliseconds; pre-SMA stimulation preceding rIFC stimulation by 10 or 4 milliseconds. Subjects were tested on the stop signal task along with the delay discounting task as control at baseline, and after each cPAS session.

Results: The stop signal reaction time showed a main effect of PAS condition when controlling for age ($F(4,76) = 4.534$, $p = 0.002$). Younger subjects had greater impairments in response inhibition when the pre-SMA pulse preceded the rIFC pulse by 10 msec. In older individuals, response inhibition improved when the rIFC pulse preceded the pre-SMA pulse by 4 msec. There were no effects observed on delay discounting.

Conclusions: cPAS modified response inhibition through age-dependent plasticity mechanisms via putative cortico-cortical and cortico-subcortical networks. We show for the first time the capacity for cPAS to modify a cognitive process highly relevant to psychiatric disorders.

Supported By: Medical Research Council

Keywords: Transcranial Magnetic Stimulation, Response Inhibition, Plasticity, Age, Associative Learning

F275. Galantamine-Memantine Combination Targets Cognitive Impairments in Schizophrenia and Kynurenine Pathway Metabolites: A Battalion of Novel Biomarkers

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Background: Treatment for cognitive impairments associated with schizophrenia (CIAS) is a major clinically unmet need. The aim of this study was to examine whether the galantamine-memantine combination was effective for CIAS.

Methods: In this 6-week open-label clinical trial, three participants with schizophrenia were enrolled; two completed the study. Participants received galantamine ER 24 mg and memantine XR 21 mg for four weeks. Plasma was analyzed for kynurenine pathway (KP) metabolites.

Results: In a 36-year old male with schizophrenia, scores improved in five of seven MATRICS Consensus Cognitive Battery (MCCB) domains except working memory and verbal learning. In a 45-year old male with schizoaffective disorder, there were improvements in speed of processing and working memory. Picolinic acid (PIC) concentration decreased in both the participants. Kynurenic acid concentration decreased in both participants, and kynurenine concentration decreased in one participant.

Conclusions: This is the first study that suggests the association of MCCB and KP metabolites in schizophrenia. This is the first attempt to test whether there is synergy between cholinergic and glutamatergic systems and can be simultaneously targeted to treat cognitive deficits associated with schizophrenia. The decrease in PIC concentration with the treatment is a promising finding because high concentrations of PIC are toxic to the brain and can be explained by the NMDA antagonist action of memantine. KP metabolites are novel biomarkers to detect the severity of cognitive impairments and monitor the progress with treatment. This combination targets the triple hypotheses concurrently - nicotinic-cholinergic, glutamatergic/NMDA and kynurenic acid.

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Keywords: Schizophrenia, Cognition, Kynurenine, Galantamine, Memantine

F276. Use of HIV Post-Exposure Prophylaxis Among Women Sexual Assault Survivors is Not Associated With Increased Posttraumatic Stress Symptoms

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Background: To reduce HIV risk, post-exposure prophylaxis (PEP) is prescribed to some women sexual assault (SA) survivors who present for emergency care after SA. However, the use of HIV PEP, and/or accompanying medication side effects, may serve as reminders of the SA, augmenting posttraumatic stress symptoms (PTSS).

Methods: Women $\geq$ 18 years of age presenting within 72 hours of SA to one of the 13 US sites in the Better Tomorrow Network were enrolled. Information regarding HIV PEP use was obtained from the medical record and confirmed via participant self-report. PTSS (PCL for DSM-IV) were evaluated at six-week follow-up.

Results: Among woman SA survivors enrolled to date (n=422), 287 had complete medical record data, concordance between self-report and medical record data regarding HIV PEP use (yes or no), and six-week follow-up data (80% of total sample). These women constituted the study sample. 46/287 (16%) women completed an HIV PEP regimen. Sociodemographic characteristics in women who did and did not receive HIV PEP were similar. In linear regression analyses adjusted for age and peritraumatic distress, receipt of HIV PEP was not associated with increased PTSS at six weeks ($F=0.82$, $p=0.441$). Receipt of HIV PEP was also not associated with worse depressive symptoms or mental health outcomes.

Conclusions: Receipt of HIV PEP is not associated with more severe posttraumatic stress symptom outcomes.

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Keywords: HIV Post Exposure Prophylaxis, Posttraumatic Stress Symptoms, Sexual Assault, Better Tomorrow Network