clozapine and pimavanserin showed no significant worsening in motor scores vs placebo group.
Conclusion. Although Olanzapine and Quetiapine are commonly used to treat psychotic symptoms in Parkinson's Disease, the only medication with robust evidence is Clozapine. This finding may have implications for service delivery.

Differentiation Between Suicide Attempt and Suicidal Ideation in Patients With Major Depressive Disorder Using Cortical Functional Network

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Differentiation between suicide attempt and suicidal ideation in patients with major depressive disorder using cortical functional network Sehoon Shim, Differentiation between suicide attempt and suicidal ideation in patients with major depressive disorder using cortical functional network Youngjoon Kwon.

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Aims. Studies exploring the neurophysiology of suicide are scarce, and the neuropathology of related suicide is poorly understood. This study investigated source-level cortical functional networks using resting-state electroencephalography (EEG) in drug-naive patients with suicide attempt and suicide ideation.
Methods. EEG was recorded in 55 patients with suicide attempt and 54 patients with suicide ideation. Graph theory-based source-level weighted functional networks were assessed via strength, clustering coefficient (CC), and path length (PL) in seven frequency bands. This study applied machine learning to differentiate the two groups using source-level network features.
Results. At the global level, patients with suicide attempt showed lower strength and CC, and higher PL in the high alpha band, compared to those with suicide ideation. At the nodal level, compared to suicide ideation, patients with suicide attempt showed lower high alpha band nodal CCs in most of brain regions. The best classification performance for suicide attempt and suicide ideation showed an accuracy of 73.39%, a sensitivity of 76.36%, and a specificity of 70.37% based on high alpha band network features.
Conclusion. Our findings suggest that abnormal high alpha band functional network reflects the pathophysiological characteristics of suicide and might serve clinically as a neuromarker of suicide.

Modulating N-Methyl D-Aspartate Receptors to Enhance Learning of Safety Memories in a Rodent Model of Exposure Therapy

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Aims. Overactive negative memories are thought to contribute to the core symptoms of psychiatric conditions such as anxiety disorders or post-traumatic stress disorder (PTSD). For talking therapies, such as exposure therapy, there are high rates of relapse demonstrating the necessity for innovative new treatments. It is thought that enhancing the ability to extinguish fear responses to the reactivation of these memories in patients with pharmacological adjunct treatments will enhance the efficacy of interventions.

N-methyl D-aspartate receptors (NMDARs) regulate the process of memory formation and consolidation. It is hypothesised that increasing the function of NMDARs would augment the consolidation of safety learning, during treatment sessions. NMDARs require the co-agonists glycine or d-serine to function. Bitopertin, a GlyT-1 inhibitor, increases the availability of glycine. Bitopertin has been studied in the context of schizophrenia, and therefore has been demonstrated to be safe for use in humans. In this preclinical study, we aim to determine if bitopertin can enhance safety learning, so-called extinction, in rodent models.
Methods. 24 Lister Hooded rats (male, n = 12) will undergo aversive Pavlovian conditioning to form an associative memory. Rats will then be administered with saline or bitopertin systemically, prior to a session to extinguish fear responses. The strength of the extinction of responses will be measured the following day with a rapid re-acquisition test.
Results. This study is being carried out as part of an intercalated master's degree, so the final results will be available in spring 2024. Given pilot data, it is expected that we will observe that the rats administered with bitopertin exhibit lower levels of fear responses on the rapid reacquisition test than the rats administered with saline. We do not predict any sex difference in responses. This would demonstrate bitopertin has the potential to enhance and safety memory consolidation in rats.
Conclusion. This is an exciting area of research for which results could provide a break-through in improving talking therapies and adjunct treatments offered to patients with anxiety disorders. Negative results would be informative as this allows neurobiologists to refine the search for a pharmacological agent which could be used as a cognitive enhancer in this manner.