ideators and 8.72 ± 1.97 ng 5mC/μg DNA for non-ideators. There was no evidence of a significant difference between these two groups in our analysis (p=0.176). Also, we did not find a significant difference between global DNA methylation change (global DNA methylation change between baseline and three-month follow-up visits) in patients with and without emergent SI (p=0.121).
Discussion: This preliminary analysis did not find a predictive role of global DNA methylation in SI in patients with schizophrenia. The small sample size, used in this pilot study, is probably responsible for the fact that the results found here did not support those of previous research, showing that methylation levels are higher in patients with a history of a suicide attempt.

S18. STRUCTURAL COVARIANCE PREDICTORS OF CLINICAL IMPROVEMENT AT 2-YEAR FOLLOW-UP IN FIRST-EPISODE PSYCHOSIS

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Background: Neural correlates of psychotic disorders encompass multiple brain regions in multiple brain circuits, even at early stages. Previous research has characterized structural brain alterations in first-episode psychosis (FEP), but few studies have focused on the relationship between brain alterations and disease trajectories. First psychotic episodes typically evolve into a chronic course, affecting quality of life of patients and their families, with huge societal costs. Importantly, up to 80% of the patients relapse in the next five years after a first psychotic episode, with a significant risk of developing treatment resistance. Here, we investigated whether disease course may be predicted from brain structural assessments. Specifically, we measured structural covariance, a well-established approach to identify abnormal patterns of volumetric correlation across distant brain regions, which allows to incorporate network-level information to structural assessments. We performed a whole-brain structural covariance assessment of three bilateral regions form to three different cortical networks - dorsolateral prefrontal cortex (dlPFC) for the executive network, posterior cingulate cortex for the default mode network and insulae for the salience network - and subcortical structures (hippocampi, amygdalae and dorsomedial nucleus of the thalamus) that have shown to play a key role in schizophrenia.
Methods: We assessed a sample of 74 subjects from a multicenter, naturalistic, prospective and longitudinal study designed to evaluate clinical, neuropsychological, neuroimaging, biochemical, environmental and pharmacogenetic variables in first episode psychotic patients (PEPs project). Magnetic resonance imaging (MRI) scans were acquired at baseline and at 2-year follow-up, as well as clinical assessments. Psychotic symptoms were assessed using the Positive and Negative Symptom Scale (PANSS) due its widespread use in clinical studies and its reliability in assessing psychopathology across a range of patient populations. The sample was split in two groups as a function of the clinical improvement at 2-year follow-up: responders (i.e. 40% reduction in PANSS global score from baseline; n=29) and non-responders (n=45).
Results: Responder patients showed increase structural covariance between the left dlPFC and the left middle frontal gyrus, and between the right dlPFC and the right middle and superior gyrus, the left rectus and inferior frontal gyrus, the right hippocampus, and the vermis of the cerebellum. In addition, they showed increased structural covariance between the left anterior hippocampus and the ipsilateral middle occipital gyrus and the contralateral postcentral gyrus. Likewise, the structural covariance of right anterior hippocampus with right superior occipital gyrus and precentral gyrus was also increased in responder patients.
Discussion: This study shows, for the first time in the literature, that increased structural covariance at baseline within the executive network and between the hippocampi and posterior brain regions was associated with a superior treatment response at two-year follow-up. These results indicate that the integrity of structural networks should be taken into account to predict treatment outcome in FEP patients.

S19. THE ROLE OF ACE AS POSSIBLE BIOMARKER FOR TREATMENT RESISTANCE TO ANTIPSYCHOTICS IN FIRST EPISODE OF PSYCHOSIS

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Background: Angiotensin I–converting enzyme (ACE) is a peptidase that converts angiotensin I into the vasoactive and aldosterone-stimulating peptide angiotensin II, a key protein in controlling blood pressure. Recently, several evidences have shown a role of ACE in psychosis. However, the role of ACE in psychosis is poorly characterized, and at last unknown. In this study we hypothesized that ACE blood and CSF levels are lower in patients at first episode of psychosis (FEP) compared to controls; that blood ACE levels can predict the response to antipsychotics; that low plasma ACE levels correlate with both severity of symptoms and cognitive performance.
Methods: This research used data from a longitudinal cohort study of FEP (N = 138) and controls (N = 115). First of all, we conducted a two-group comparison analyses to assess the differences between patients and controls in terms of ACE levels in both blood and CSF. As a second step, we divided our patients into treatment resistant (TR) and not treatment resistant t(non-TR) to investigate ACE blood levels in these two group. Finally, we evaluated the association between ACE blood levels and clinical phenotype and neurocognition.
Results: Two-group analyses showed lower levels of ACE in patients than controls, both in blood and CSF (p values< 0.05). The two-group analyses between TR and non-TR showed lower ACE blood levels in TRs compared to non-TRs (p value< 0.05). Finally, multiple regressions showed a continuous relationship between cognitive performance and ACE blood levels (p values < 0.05).
Discussion: In conclusion, these findings showed that those FEP with lower ACE blood levels were not only more likely to develop TR conditions, but they also had greater cognitive impairment. These results are very promising, as they suggest that ACE levels can be used as a peripheral biomarker to stratify patients at first episode of psychosis.

S20. LIFETIME PSYCHOPATHOLOGY IN CHILD AND ADOLESCENT OFFSPRING OF PARENTS DIAGNOSED WITH SCHIZOPHRENIA OR BIPOLAR DISORDER

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