boiled for 30 min and total protein homogenate from lymphocytes were measured as negative and positive control reactions, respectively. To estimate the maximum reaction rate (Vmax) and the concentration of 4MU-GluC-Palm which achieved ½ Vmax (Km; a measure of enzyme-substrate affinity) the initial reaction rate was calculated in the presence of 0 – 200 µM 4MU-GluC-Palm and the Michaelis-Menten equation was fit to plots of concentration vs. initial rate. Reactions were performed on 2.5 µg total protein homogenate from the DLPFC of 24 subjects with schizophrenia and 24 non-psychiatrically ill subjects.

Results: A fluorescent signal, which increases with time to a plateau upon substrate depletion, is detectable in total protein homogenate from DLPFC and lymphocytes, but not boiled DLPFC homogenate. In the DLPFC the initial reaction rate is linear with total protein amount \( r^2 = .99; p = .007 \), demonstrating that the reaction is sensitive to varying amounts of enzyme in a 10-fold range. When compared between schizophrenia and control subjects, neither Vmax \( t(46) = .756; p = .45 \) nor Km \( t(46) = 0.780; p = .44 \) were statistically significantly different.

Discussion: Here we have demonstrated that PAT activity is measurable in human cortical tissue homogenate. Additionally, we have found no difference in the Vmax or Km of the combined PAT enzyme group in schizophrenia, providing no evidence to support our hypothesis that total PAT activity is increased in subjects with schizophrenia. This suggests that the proteome-wide decrease in S-acylated proteins in schizophrenia is caused by another mechanism, possibly increased expression or function of one or more of the specific PATs, leading to substrate specific changes in S-acylation, or a decrease in activity the acyl protein transferase enzymes, which attract acyl groups to proteins.

T182. DIAGNOSIS INDEPENDENT SYNDROME RELATED GRAY MATTER VOLUME CHANGES IN A LARGE TRANSDIAGNOSTIC COHORT: RESULTS FROM THE FOR2107 STUDY

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Background: More than a century of research on the neurobiological underpinnings of the Major Psychoses (Schizophrenia SZ, Bipolar Disorder BD, Major Depressive Disorder, Schizoaffective Disorder SZA) has been unable to identify diagnostic “markers”. An alternative approach is to study dimensional psychopathological syndromes that cut across categorical diagnoses. Brain imaging studies on the correlates of syndromes are thus far restricted to one diagnosis, however it is unclear, whether structural brain correlates of syndromes are the same across diagnoses. Previously, we have identified 7 syndromes in n=811 patients suffering from major psychoses, applying a confirmatory factor analysis, including depressed mood, negative symptoms, delusions, formal thought disorders, hallucinations, mania and increased appetite. The aim of the current study was to identify gray matter volume correlates of these syndromes across the major psychoses.

Methods: We tested the association of the above 7 psychopathological factors with whole brain GMV (voxel-based morphometry) in a sample of n=713 patients meeting DSM-IV criteria for MDD (n=550), BD (n=79), SZ (n=51) and SZA (n=33) (www.for2107.de). T1-weighted brain images were acquired at a 3-Tesla MRI. Images were pre-processed as implemented in the Cat12 (SPM12) toolbox. We performed multiple regression analyses for each factor separately and used the family wise error correction (FWE) to correct for multiple comparisons. Additionally, we tested if local VBM associations were driven by one diagnosis extracting the beta-volumes of the clusters and then comparing the subgroups using ANCOVA.

Results: The delusion factor was negatively correlated with gray matter volume in the left inferior temporal gyrus/fusiform gyrus (k=138 voxels, x/y/z=-48/-58/-15, t=5.23, p<.05 FWE peak level) and the left amygdala/hippocampus (k=23 voxels, x/y/z=-15/-12/-1, t=4.84, p<.05 FWE peak level). The hallucinatory syndrome was negatively correlated with volume in the right thalamus proper (k=54 voxels, x/y/z=8/-4/-2, t=4.9, p<.05 FWE peak level). Extraction of the beta-volumes revealed no effect of diagnosis (delusions (F (3,708) p=.54); hallucinations (F (3,708) p=.542).

Discussion: Volume changes underlying psychopathological syndromes are independent of diagnosis. We could confirm previous results from much smaller studies which have restricted themselves to single diagnoses or case control designs. Our findings open a new avenue for neurobiological research of the major psychoses, using syndrome based, dimensional approaches rather than DSM or ICD diagnoses.

T183. LOW LEVELS OF VITAMIN D ARE ASSOCIATED WITH REDUCED CORTICAL THICKNESS AND SURFACE AREA INFRONTAL, TEMPORAL AND OCCIPITAL REGIONS IN FIRST-EPODE PSYCHOSIS PATIENTS

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Background: Vitamin D is a neuro-steroid hormone important in brain development, maturation and function as it modulates the production of numerous brain growth factors. Indeed insufficient levels seem to compromise brain development and confer an increased risk of developing schizophrenia later on in life. Finally patients with first-episode psychosis tend to have lower levels of vitamin D than healthy controls. We aimed to explore: 1) The association between vitamin levels and brain structure (i.e. cortical thickness and surface area) in FEP individuals; 2) Differences in brain structure (i.e. cortical thickness and surface area) between FEP individuals with optimal and sub-optimal levels of Vitamin D.

Methods: Sample: 49 patients with first episode of psychosis (mean age: 27.8 SD ± 9.1 years) part of the BRC Psychosis Theme study on Genetics and Psychosis (GAP). Vitamin D: Vitamin D (serum 25-hydroxyvitamin D) levels were determined by immunoassay. Patients were considered to have sub-optimal levels if vitamin D concentration was below 20 ng/ml, with higher concentrations deemed optimal. Twenty patients had sub-optimal levels of Vitamin D whereas 29 had optimal Vitamin D concentration.

Brain Structure: 3T MRI scan were used to evaluate the cortical thickness and the surface area in 49 FEP patients. FreeSurfer 5.3.0 was used to correlate Vitamin D levels with both cortical thickness and surface area in a vertex-by-vertex analysis. Afterwards differences in cortical thickness and surface area between FEP participants with both optimal and sub-optimal Vitamin D levels were examined using a vertex-by-vertex General Linear Model analysis in FreeSurfer 5.3.0. Results were corrected for multiples comparison with Monte Carlo simulation.

Results: Vitamin D levels positively correlated with cortical thickness in the left superior-frontal gyrus and surface area in the right peri-calcarine and right inferior-parietal gyrus (all p<0.05 FWE corrected). FEP patients with sub-optimal levels of Vitamin D (below 20 ng/ml) had reduced cortical thickness in the right medial-orbitofrontal gyrus and lingual gyrus compared to those with optimal levels of Vitamin D (all p<0.05 FWE corrected). Additionally, FEP patients with sub-optimal levels of Vitamin D had smaller surface areas in the cuneus, latero-orbitofrontal gyrus, pre- and post central gyri, superio-frontal gyrus, and inferio parietal gyrus in the right hemisphere than those with optimal levels (all p<0.05 FWE corrected).
T185. OLIGOPEPTIDASES IN SCHIZOPHRENIA
Abstract not included.

T186. IMPACT OF A STRUCTURED VALIDATED FAMILY PSYCHOEDUCATIONAL PROGRAM (PROFAMILLE) ON MENTAL HEALTH CARE OF PEOPLE WITH SCHIZOPHRENIA SPECTRUM DISORDERS: PRELIMINARY RESULTS

Background: Psychoeducational programs for caregivers are essential to support the rehabilitation process and recovery in patients with severe psychiatric disorders. PROFAMILLE is a French psychoeducational program first developed in 1987 in Quebec for caregivers of people suffering from schizophrenia spectrum disorders. Its efficacy has already been proven: increased mental well-being of caregivers, 50 % less hospitalisations and improvement of the rehabilitation process of their ill relatives. Nowadays, this program exists in 6 different countries. While psychosocial rehabilitation programs should be proposed to all patients with schizophrenia spectrum disorders, the access to them seems to be limited. Moreover, the adherence rate to mental healthcare is low, partially because of lack of motivation and insight. We postulate that proposing a psychoeducational intervention to caregivers with a validated psychoeducational program such as PROFAMILLE, could improve commitment of patients to their mental health care and also to more specific psychosocial rehabilitation interventions (psychoeducation, cognitive remediation, social skills, cognitive-behavioural therapy, social and employment supports). This present study aims to analyse the effect of PROFAMILLE program on the quality of mental healthcare given to the ill relatives of participants.

Methods: We conducted in September 2019 a retrospective observational study in a Cognitive Remediation and Psychosocial Rehabilitation Department, CRISALID (area Hauts de France, France) which proposes PROFAMILLE program since 2010. PROFAMILLE is a groupual intervention program structured in two modules including first 14 sessions then 4 sessions with animators and 4 sessions without animators. There are home exercises between the sessions. All the caregivers are assessed with several socio-demographic, clinical and psychological tools during all the program. We used patient’s on-line medical files and caregivers phone calls to collect following data: first contact with the mental health care department, next contacts with mental health care departments, improvement of the quality of mental health care, participation to a cognitive remediation and psychosocial rehabilitation program.

Results: 94 caregivers who participated to the whole program were included (PROFAMILLE program between 2012 and 2019). We obtained data about ill relatives of 81 caregivers (86 %). Relatives report the following data: 14 % (11) patients were able to benefit for the first time health mental care after...