**Discussion:** UHR-P showed significant cortical thinning in several regions of the right cingulate cortex in comparison to HC, giving support to the notion that structural alterations in the cingulate cortex may be present in children and adolescents prior the onset of psychosis. Longitudinal changes in CTH have the potential to increase understanding of changes related to transition to clinical illness.

## T175. A 10-YEAR LONGITUDINAL STUDY OF GREY MATTER VOLUME IN FIRST EPISODE OF NON-AFFECTIVE PSYCHOSIS

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**Background:** Structural abnormalities in First Episode of Non- Affective Psychosis (FEP) are shown to be present at the time of onset of the illness. Although there are multiple cross-sectional studies in chronic patients there is no clear evidence how these alterations progress years after the appearance of the first episode.
**Methods:** Data for the present investigation were obtained from an ongoing epidemiological and longitudinal intervention programme of first-episode psychosis (PAFIP) conducted at the Marqués de Valdecilla University Hospital (HUMV), Spain. Images for 62 FEP patients and 47 healthy controls were acquired at baseline and 10 year follow-up on the same 1.5-T whole-body scanner (SIGNA, GE, Milwaukee, WS, USA). Three-dimensional T1-weighted images, using a spoiled gradient-recalled acquisition in the steady state (GRASS) (SPGR) sequence, were acquired in the coronal plane with the following parameters: TE=5 msec, TR =24 msec, NEX=2, rotation angle =45°, FOV= 26 x 19.5 cm, slice thickness =1.5 mm and a matrix of 256 x 192.
Structural imaging data for each subject was analyzed using serial longitudinal Statistical Parametric Mapping software (SPM12). After segmenting the mid-point average and multiply the result by the jacobian maps, DARTEL was applied to spatially normalise de diferences. T-test between both groups was performed, allowing voxel-wise comparison of progressive structural change. All results were $p<0.05$ FWE corrected.
**Results:** FEP patients exhibited progressive bilateral atrophy of the anterior cingulate bilaterally, the right inferior orbital, middle and superior frontal giri, left precentral and postcentral giri and cerebellum. We found no areas were grey matter was greater in controls than in patients.
**Discussion:** In this study we analyze a well characterized sample of patients with a first episode of non-affective psychosis in the first weeks after onset and 10 years later. Our results confirm that, apart from the grey matter volume reduction presented at baseline, patients show a progressive grey matter loss in anterior cingulate, frontal and parietal lobes as well as cerebellum.

## T176. REDUCED WHITE MATTER 'CONNECTIVITY' IN THE SPLENIUM OF THE CORPUS CALLOSUM IN TREATMENT-RESISTANT SCHIZOPHRENIA

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**Background:** Resistance to treatment affects up to 30% of patients with schizophrenia (SCZ). Current criteria for treatment-resistant schizophrenia (TRS) require failure to respond to two antipsychotic trials for adequate dose and duration. Clozapine is the only antipsychotic that is more effective to treatment resistant patients. Increasing evidence suggest that TRS may represent a subgroup of patients with distinct biological signature. Brain dysconnectivity was proposed as a major feature of schizophrenia and more intense in TRS patients. Earlier identification of TRS may anticipate the clozapine trial and, thus, reduce disability and treatment costs. In our study, we investigated whether there were differences in white matter integrity among first episode of psychosis (FEP), treatment-resistant schizophrenia (TRS), and non treatment-resistant schizophrenia (NTRS) patients.
**Methods:** Diffusion-tensor brain MRI images were obtained for 34 TRS (19 males), 50 NTRS (26 males) and 35 FEP individuals (18 males), on a Siemens 1.5T MRI scanner. Treatment resistance was defined as persistence of moderate to severe symptoms, after failure to respond to 4–6 week trials of at least two different antipsychotic medications in adequate doses (equivalent to at least 400 mg/day of chlorpromazine or 5 mg/day of risperidone). All participants were receiving antipsychotic medication. All TRS patients were in clozapine use. Analysis of diffusion parameters was performed using a tract-based spatial statistics (TBSS), yielding a total two contrasts: i) mean FA is lower (or higher) in the TRS compared to the FEP, ii) mean FA is lower (or higher) in the NTRS compared to the FEP corrected for multiple comparisons using family-wise error (FWE) < 0.05. Gender and age were used as covariates.
**Results:** FEP patients were younger than TRS (mean±SD; 27.2 ± 7.93 y/o vs 37.06 y ±7.98 y/o;t=5.08, $p<0.001$) and NTRS (27.2 ± 7.93 y/o vs 37.71 y ±11.18 y/o; t=4.57, $p<0.001$) patients. Reduced in FA value was observed in the splenium of the corpus callosum (CC) in TRS patients when compared to FEP (47,598 voxels and thresholded at $p<0.05$). No differences between NTRS and FEP patients were observed.
**Discussion:** Our results showed reduced FA value in the splenium of the CC in TRS when compared to FEP. The splenium of corpus callosum connects the temporal and occipital cortices, and have been previously associated with schizophrenia, but not specifically to treatment resistance in schizophrenia. Our data might suggest that patients with resistance to treatment have inefficiency in the connectivity of the white matter between these regions. Further studies will be required to replicate these findings and to explore the significance of white matter changes in the brain in order to determine if these are consequence of disease progression or related to clozapine exposure.

## T177. STRUCTURAL ORGANIZATION OF THE PRAXIS NETWORK PREDICTS GESTURE PRODUCTION: EVIDENCE FROM HEALTHY SUBJECTS AND PATIENTS WITH SCHIZOPHRENIA

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