hippocampus, right insula, and lingual left contributed most to the classification decision of VisDys. The utility of entropy (energy) revealed inverse structural changes in shared regions when VisDys were present in ROP (CHR) patients.
**Conclusions:** Preliminary results suggest that microstructure changes in non-segmented images are associated with the VisDys phenomenon. The proposed framework enhances the classification decision for VisDys in ROP and CHR patients. It supports a model of the visual system being implicated in core disease mechanisms of psychosis that may potentially contribute to identification of structural biomarkers for psychosis. The complexity of the microstructural changes is differentiated in shared regions between ROP and CHR patients.
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**Structural alterations in psychotic disorders co-localize with serotonergic and dopaminergic neurotransmitter systems**

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**Background:** Aside to common psychotic symptoms such as hallucinations, delusions and disorganized thinking, psychotic disorders such as schizophrenia (SCZ) and recent onset psychosis (ROP) are characterized by structural alterations such as volume reductions in the temporal, frontal, and parietal lobes [1]. Only little is known about the underlying mechanisms leading to the anatomical constraints of the pathophysiology. Here, we evaluated if these alterations are linked to the distribution of specific neurotransmitter systems.
**Methods:** Maps of grey matter volume (GMV) were derived from T1-weighted structural magnetic resonance imaging for 67 SCZ patients (mean age = 35.6 ± 12.0, 15 females), 156 ROP patients (mean age = 25.3 ± 5.5, 60 females), 139 subjects with clinical high risk for psychosis (CHR; mean age = 23.8 ± 5.0, 68 females), and 331 healthy controls (HC, mean age = 26.8 ± 8.1, 184 females). The data were collected within the PRONIA (Personalised Prognostic Tools for Early Psychosis Management) [2] and MIMICSS (Multimodal imaging in chronic Schizophrenia Study; part of the PsyCourse study) [3] studies. To test for group differences in GMV, pairwise group t-contrasts were performed in SPM12 using a one-way ANOVA with group (patient or HC) as independent variable and age, sex, site and TIV as covariates (family wise error corrected voxel threshold: $p < .05$). Furthermore, we tested if these structural alterations (i.e. nuisance-effects corrected GMV maps) co-localize with the known non-pathological distribution of specific neurotransmitter systems using the JuSpace toolbox [4].
**Results:** Compared to ROP, CHR and HC, SCZ patients displayed significantly reduced grey matter volume in the left and right amygdala. For SCZ relative to HC, these alterations significantly co-localized with the distribution of serotonin and dopamine receptors (5-HT1a: mean $r = -.13$, $p < .001$; 5-HT2a: mean $r = -.07$, $p = .01$; D1: mean $r = -.08$, $p < .001$), serotonin, dopamine, and acetylcholine transporters (DAT: mean $r = -.10$, $p < .001$; SERT: mean $r = -.07$, $p = .002$; VAChT: mean $r = -.14$, $p < .001$), and FDOPA (mean $r = -.09$, $p < .001$). For ROP relative to HC, these alterations significantly co-localized with serotonin 5-HT1a and 5-HT2a (5-HT1a: mean $r = –.07$, $p = .002$; 5-HT2a: mean $r = -.06$, $p = .002$) and gamma-aminobutyric acid type A (mean $r = -.05$, $p = .005$) receptors, and the noradrenaline transporter (mean $r = -.06$, $p < .001$). For CHR relative to HC, there were no significant associations. The negative correlation coefficients suggest that GMV in SCZ and ROP relative to HC is reduced in areas with high density of those neurotransmitters in health.
**Conclusion:** GMV volume reductions in SCZ and ROP follow the distribution of specific neurotransmitter systems, supporting the notion of the preferential vulnerability of specific neurotransmitter systems. These findings provide novel insight into neuropathophysiological mechanisms underlying structural alterations in psychotic disorders such as SCZ and ROP.
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**A case report of a first episode psychosis in a transgender woman – the hardship of the gender transitioning process**

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**Background:** Transgender people can experience clinically significant distress due to sex incongruence, leading to impairment in important areas of functioning, especially when early onset is reported.
Studies have shown that gender-affirming therapy improves quality of life, but, in some states, the path to sex reassignment might prove impervious and distressing itself, as some services are not properly provided, and the patient might have to pursue them far from home.
In this case, we evidence how a patient with family history of schizophrenia developed her first psychotic episode subsequently to complete gender reassignment procedures.
**Case presentation:** We discuss the case of a 28-year-old woman who was admitted to our inpatient clinic for an acute psychotic episode, presenting with delusions and dysphoric mood. The patient, an assigned male at birth (AMAB), had shown early signs of Gender Dysphoria, so, in adolescence, she had initiated