Article: EPA-1769
Topic: S513 - Symposium: Deciphering the genetic architecture of schizophrenia - progress at last

Imaging genetic risk for schizophrenia

H.E. Hulshoff Pol[1]

[1]Brain Center Rudolf Magnus Psychiatry, University Medical Center Utrecht, Utrecht, Netherlands

The genetic risk for schizophrenia is estimated to range between 60% and 80%. These estimates are based on family-studies. Patients with schizophrenia have changes in brain structure and function, Since brain structure and function are considerably heritable and include genes implicated in schizophrenia, these measures are interesting to provide phenotypic characterization of risk variant carriers. Indeed, it was found that first-degree family members of patients share some of the gray matter changes with the probands, and in particular those with increased genetic burdening such as in discordant twins of patients (Moran et al, 2013). A study in monozygotic and dizygotic twins discordant for schizophrenia revealed that local cortical thickness changes as well as smaller white matter volume in schizophrenia are for a considerable part heritable, including genes overlapping with the genetic risk for the disease (Hulshoff Pol et al, 2012). To determine whether the smaller white matter volume as a candidate endophenotype for schizophrenia reflects changes in white matter microstructure and network properties is an important next step. Brain measures may provide clinically relevant risk scores in the future. The feasibility to use a classification model based on magnetic resonance brain images (Schnack et al, in preparation), and to include family related contextual information (Mandl et al, 2013) to measure risk for schizophrenia will be discussed.
Moran ME, Hulshoff Pol HE, Gogtay N. Brain, 2013. 136:3215-3226.
Hulshoff Pol HE et al. Arch Gen Psychiatry, 2012. 69:349-359.
Mandl R, et al, Schizophrenia Research, 2013. 149:108-111

https://doi.org/10.1016/S0924-9338(14)78895-9 Published online by Cambridge University Press