SUBSTANCE-INDUCED PSYCHOSIS LINKED TO BOTH INFECTIONS AND SCHIZOPHRENIA

Hjorthoj, Carsten; Starzer, Marie; Benros, Michael; Nordentoft, Merete

DOI:
10.1093/schbul/sbaa029.643

Publication date:
2020

Document version
Publisher's PDF, also known as Version of record

Document license:
CC BY

Citation for published version (APA):
factors with preadult multiple drug use ($p = 1.12 \times 10^{-25}, \text{OR} = 243.6$). Furthermore, preadult environmental risk accumulation strongly predicted onset of multiple drug use in adulthood (>18 years; $p = 6.27 \times 10^{-18}, \text{OR} = 19.4$). The application of the novel genetic approach yielded 35 single-nucleotide variants (SNPs) that potentially confer susceptibility to preadult multiple drug use. Out of these, 14 were located in gene-coding regions. Interestingly, 9 of these genes are implicated in neuronal development/function or metabolite transport/transformation. Additional gene-based analyses identified another 4 genes relevant for metabolite transport/transformation as well as 4 genes that play a role in hypoxia signaling.

**Discussion:** The present results show that an accumulation of environmental risk factors during early life (<18 years) is a strong predictor of multiple drug use during adolescence and later life. These findings suggest that exposure to accumulated environmental risk during early life is not only associated with violent aggression – as previously reported by our lab – but is also an important predictor of multiple drug use. Moreover, we present first evidence of a genetic susceptibility to preadult multiple drug use, which will benefit from future replication in suitable samples of patients with mental illness or the general population.

**T83. SUBSTANCE-INDUCED PSYCHOSIS LINKED TO BOTH INFECTIONS AND SCHIZOPHRENIA**

**Carsten Hjorthøj**, Marie Starzer, Michael Benros, Merete Nordingtoft

1. Copenhagen University Hospital, Mental Health Centre Copenhagen. The Lundbeck Foundation Initiative for Integrative Psychiatric Research (iPSYCH); 2. Copenhagen University Hospital, Mental Health Center Copenhagen, Copenhagen Research Center for Mental Health - CORE; 1. Mental Health Centre Copenhagen

**Background:** Substance-induced psychosis is an under-researched phenomenon, and little is known about its etiology (other than exposure to substances) and long-term prognosis. In this presentation, we aim to present results from two recent studies, one of which was recently published and the other is currently in the process of being analyzed. The first study investigates rates and predictors of conversion from substance-induced psychosis; the second study investigates the association between severe infections and substance-induced psychosis, including the contribution of infections on conversion to schizophrenia.

**Methods:** Both studies utilized the nationwide Danish registers. In study 1, we included all people diagnosed with substance-induced psychosis from 1994 to 2014 (n = 6,788). These were followed using the Kaplan-Meier method and Cox proportional hazards regression to estimate rates and predictors of conversion to schizophrenia or bipolar disorder. In study 2, we included the entire Danish population born since 1981 (n = 2,256,779). These were followed in Cox proportional hazards regression models, linking hospital-requiring infections as time-varying covariates to the development of substance-induced psychosis. In further analyses, we followed those who had developed substance-induced psychosis to determine whether infections would influence the risk of converting to schizophrenia.

**Results:** Study 1: Overall, 32.2% (95% CI 29.7–34.9) of patients with a substance-induced psychosis converted to either bipolar or schizophrenia-spectrum disorders. The highest conversion rate was found for cannabis-induced psychosis, with 47.4% (95% CI 42.7–52.3) converting to either schizophrenia or bipolar disorder. Young age was associated with a higher risk of converting to schizophrenia. Self-harm was significantly linked to a higher risk of converting to both schizophrenia and bipolar disorder.

Study 2: Infections increased the risk of substance-induced psychosis (HR $= 1.30$, 95% CI 1.22–1.39) in the fully adjusted model. Hepatitis was the infection most strongly associated with substance-induced psychosis, at HR $= 3.42$ (95% CI 2.47–4.74). Different sites of infections showed associations with different types of substance-induced psychosis. Finally, hepatitis increased the risk of conversion to schizophrenia with HR $= 1.87$ (95% CI 1.07–3.26).

**Discussion:** Substance-induced psychosis is strongly associated with the development of severe mental illness, and a long follow-up period is needed to identify the majority of cases. Infections appear to play a role in the etiology of substance-induced psychosis which is very similar to the role infections play in the etiology of schizophrenia. This lends strong support to the existence of an immune-related component to psychosis in general, and not just to schizophrenia.

**T84. PREMORBID ADJUSTMENT AND IQ IN PATIENTS WITH FIRST-EPISTEME PSYCHOSIS: A MULTISITE CASE-CONTROL STUDY OF THEIR RELATIONSHIP WITH CANNABIS USE**

Abstract not included.

**T85. LIVING WITH PSYCHOSIS IN LATER LIFE**

Cherrie Galletly*, Shuichi Suetani*, Duncan McKellar, David J. Castle

1. The University of Adelaide; 2. Queensland Centre for Mental Health Research; 3. Older Persons’ Mental Health Service, Northern