E-Poster Presentation

EPP0304

Pharmacogenetic CYP2D6 variability, phenoconversion and treatment outcomes: A Danish population-based cohort study in 6,798 individuals initiating atomoxetine treatment

K. Ishtiak-Ahmed[1]*, C. Lunenburg[1], J. Thirstrup[2], L. Clausen[3], P. Thomsen[3] and C. Gasse[1]

[1]Aarhus University Hospital Psychiatry, Department Of Affective Disorders, Aarhus N, Denmark; [2]Aarhus University, Department Of Clinical Medicine, Aarhus N, Denmark and [3]Aarhus University Hospital Psychiatry, Department Of Child & Adolescent Psychiatry, Aarhus N, Denmark
*Corresponding author.
doi: 10.1192/j.eurpsy.2022.588

Introduction: Atomoxetine, a first-line treatment option for ADHD, is affected by pharmacogenetic (PGx) variation of the drug-metabolizing enzyme CYP2D6. Despite the recommendation of CYP2D6 testing, the use of PGx-guided dosing remains low in Denmark.
Objectives: We investigated wide-ranging clinical outcomes in atomoxetine users in association with PGx variability.
Methods: We analyzed 6,798 individuals (55% children) with a first prescription for atomoxetine identified from the Danish population-based iPSYCH case-cohort study linking biobank information with Danish registers. Individuals were categorized based on their single-nucleotide-polymorphism-based CYP2D6 genotype into normal (NM), intermediate (IM), and poor metabolizer (PM). Clinical outcomes included treatment switching, discontinuation, psychiatric inpatient-, outpatient-, and emergency contact, suicide attempt/self-harm, sleep problem, and depression. Individuals' CYP2D6-status could change due to drug-drug-interactions of weak, intermediate, or strong-CYP2D6 inhibitors (phenoconversion), which we accounted for by time-varying phenotype assessment. Incidence rate ratios (IRR) were estimated using Poisson regression analyses and adjusted for a wide range of potential confounders and covariates.
Results: Over two-thirds of the individuals had a hospital diagnosis of ADHD at the first atomoxetine prescription. The distribution of CYP2D6 phenotypes was similar in children and adults. IM/PM children had a significantly higher risk of a sleeping problem compared with NM children (IRR 1.25, 95% CI 1.01-1.54). Compared with NM adults, those with IM/PM had a higher risk of switching (1.15, 95% CI 0.98-1.35).
Conclusions: This is the first study showing the potential impact of PGx variability on clinical outcomes of atomoxetine users in a population-based setting, highlighting the utility of PGx testing.

Disclosure: No significant relationships.
Keywords: treatment switching; CYP2D6 inhibitors; adhd; sleeping problem

EPP0303

Predicting involuntary admission among patients with psychotic disorder

E. Perfalk[1]*, L. Hansen[1], K. Nielbo[2], A. Danielsen[1] and S. Dinesen[1]

[1]Børglumvej 11, Department For Affective Disorders, Aarhus N, Denmark and [2]Aarhus University, School Of Culture And Society, Aarhus C, Denmark
*Corresponding author.
doi: 10.1192/j.eurpsy.2022.589

Introduction: Involuntary admissions are increasing in numbers across Europe.[1] They can be traumatic for the patients[2] and are associated with large societal costs.[3] Individuals with psychotic disorder are at particularly elevated risk of involuntary admission.
Objectives: This study aims to investigate whether machine learning methods including natural language processing can predict involuntary admission among patients with psychotic disorder.
Methods: We have obtained a dataset based on electronic health records for all patients having had at least one contact with the psychiatric services in the Central Denmark Region from 2011 to 2021. This dataset covers more than 120,000 patients, of which approximately 10,000 have been diagnosed with a psychotic disorder. The dataset contains both structured data, such as diagnoses, blood tests etc., as well as unstructured data (text). We will train machine learning models, basic logistic regression-models as well as state-of-the-art neural networks, to predict involuntary admission after contacts to the psychiatric services.
Results: As the machine learning models are under development, no results are available at this time. Preliminary results are expected in spring 2022.
Conclusions: If involuntary admission can be predicted among patients with psychotic disorder based on data from electronic health records, it will pave the way for potentially preventive interventions. References: 1. Sheridans-Rains, L et al., 2019 2. Frueh, B.C et al., 2005 3. Smith,S., 2020

Disclosure: No significant relationships.
Keywords: Precision Psychiatry; PSYCHOTIC DISORDERS; Involuntary admission

EPP0304

Upside down: dissecting impulsivity in attention-deficit hyperactivity disorder through genotype-phenotype association analyses

L. Balogh[1]*, A. Pulay[1], N. Angyal[2], K. Vincze[1], T. Kilencz[1], Z. Nemoda[2] and J. Réthelyi[1]

[1]Semmelweis University, Department Of Psychiatry And Psychotherapy, Budapest, Hungary and [2]Semmelweis University, Department Of Biochemistry And Molecular Biology, Budapest, Hungary
*Corresponding author.
doi: 10.1192/j.eurpsy.2022.590

Introduction: Better evaluation and understanding of the core symptoms have key importance both in clinical practice and the research of attention-deficit hyperactivity disorder (ADHD). One hallmark neurocognitive feature of ADHD is impaired inhibition, related to impulsivity. Given the high heritability of ADHD, the