psychotropic drugs are available (PGx drugs), but PGx testing is used only limitedly in psychiatric clinical practice.
Objectives: The aim of this study is to pinpoint different aspects of PGx drug use in the population, to support clinical uptake of PGx.
Methods: This drug utilization study investigated prescription PGx drug use in 56,065 young individuals with different severe mental disorders (SMD) in the Danish iPSYCH sample (born 1981-2005). We investigated the number of PGx drug users (incidence, prevalence), age (at first PGx drug use), sex, multiple PGx drugs per user (in light of panel-based PGx testing) and concomitant use of PGx drugs (in light of combinatorial PGx testing).
Results: We identified substantial PGx drug use in terms of incidence rates (e.g. 333 per 10,000 person years for the anticonvulsant lamotrigine) and prevalence (e.g. 15,260 users for the antidepressant citalopram) in patients with SMD. The age of first time PGx drug use ranged from 11.6-20 years, depending on SMD and sex. On average, more than one PGx drug was used by a single person (range 1.6-5.6 drugs, depending on SMD) or even used concomitantly (41-69%) affecting mostly two different PGx genes (84-92% of concomitant PGx drug users).
Conclusions: PGx drugs were frequently used in young individuals with SMD, often subsequently and concomitantly, arguing for panel-based/combinatorial PGx testing over single-gene testing. PGx testing could be applied already at a very young age.

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Keywords: Pharmacogenetics; Drug Utilization; severe mental disorders

O213

Pharmacogenetics and adhd treatment outcomes in the danish population-based IPSYCH sample

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Introduction: Pharmacogenetics (PGx) studies genetic variance and related differences in drug outcomes. The aim of PGx testing is to increase therapy efficacy and safety, by applying e.g. dose adjustments in patients with a specific geno- or phenotype. PGx guidelines for psychotropic drugs are available (PGx drugs), including atomoxetine used in the treatment of attention deficit hyperactivity disorder (ADHD). In Denmark, broad implementation of PGx is currently still low, possibly due to the lack of population-based studies investigating the real-world impact of PGx variability.
Objectives: The aim of this study is to investigate the association of PGx variability (patients' genotype/phenotype) in users of atomoxetine and different treatment outcomes in a large population-based sample of individuals with ADHD.
Methods: This study will use data of the large Danish population-based iPSYCH case-cohort study sample including information on genetic variants, prescription drug use and outcome data, e.g. psychiatric and somatic hospitalizations and death. The study population comprises all individuals diagnosed with ADHD born 1981-2005 with at least one prescription for atomoxetine between 1995 and 2016. All individuals will be categorized according to their CYP2D6 phenotypes. We will perform Cox regression analysis to estimate the hazard ratios comparing the rates of the different outcomes in people with different phenotypes adjusted for a number of confounding factors.
Results: We have identified approximately 20,000 individuals with ADHD, of whom an estimated 10-20% have filled at least one prescription of atomoxetine.
Conclusions: We expect results in the beginning of 2021.

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Keywords: Pharmacogenetics; ADHD; atomoxetine

O214

Pharmacogenetic profiles of young danish individuals with and without severe mental disorders

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Introduction: Pharmacogenetics (PGx) studies genetic variance and related differences in drug outcomes. PGx guidelines for psychotropic drugs are available (PGx drugs). By executing PGx testing in a prospective or pre-emptive setting, dose adjustments or even change of treatment type can be applied prior to start of therapy to patients who carry a specific geno- or phenotype (i.e. actionable geno- or phenotypes). By doing so, increased efficacy of therapy or reduced risk of adverse events of treatment can be accomplished. In Denmark, broad implementation of PGx is currently still low.
Objectives: The aim of this study is to classify the PGx profiles of Danish individuals with and without severe mental disorders (SMD), to be used in follow-up studies investigating PGx and drug outcomes.
Methods: This study made use of imputed genotyping data of the Danish iPSYCH sample, which includes 77,639 young individuals born between 1981-2005, with or without a diagnosis of one or more of five selected SMD (i.e. depression, attention-deficit/hyperactivity disorder, autism, bipolar disorder and schizophrenia). We investigated a panel of 48 genetic variants with known PGx