Psykiatriens 13. Forskningsdag

5. december 2019, Auditorium G206-142, AUH

Program og abstracts

AARHUS UNIVERSITET

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Cannabidiol and S-ketamine antidepressant effects are associated with gene expression changes in the frontal cortex of the Sensitive Line rat

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Clinical validation of the six-item Positive and Negative Syndrome Scale (PANSS-6)

Kl. 15.00-15.15 **Tine Holm**, Forskningsenheden for Psykoser (P), AUHP
Mechanical restraint episodes and psychological adjustment: a study of memories in healthcare providers and patients with schizophrenia

Kl. 15.15-15.30 **Carin Lunenburg**, Department of Depression and Anxiety (ADA), AUHP
Prescription drug use and related actionable drug-gene interactions in the Danish population

Kl. 15.30-16.00 **Afslutning med prisoverrækkelse for bedste foredrag og bedste poster**

Abstracts – foredrag

Børn født af forældre med skizofreni eller bipolar lidelse - Hvad har vi lært fra The Danish High Risk and Resilience Study VIA 7?

Aja Neergaard Greve[1,2], Ditte Gantriis[1,2], Birgitte Klee Burton[2,3], Ditte Ellersgaard[2,4], Camilla Jerlang Christiani[2,4], Katrine S. Spang[2,3], Nicoline Hemager[2,3,4], Jens Richardt Møllegaard Jepsen[2,3,4,5], Kerstin J. Plessen[2,3,6], Anne A. E. Thorup[2,3], Merete Nordentoft[2,4], Vibeke Bliksted[1,2] Ole Mors[1,2]

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Background
Da skizofreni og bipolar lidelse er sjældne i den generelle befolkning, kan undersøgelser af børn med familiær risiko for disse lidelser bidrage med vigtig viden om sygdomsudviklingen. Børn født af forældre med skizofreni eller bipolar lidelse har øget risiko for at udvikle psykisk sygdom samt en lang række sociale, kognitive og motoriske udfordringer. Tidligere studier har inkluderet børn med et bredt aldersspænd samt rekrutteret børn fra patienter i aktuel behandling.
Objectives
Vores formål var at undersøge en repræsentativ kohorte af 7-årige børn med øget familiær risiko for skizofreni eller bipolar lidelse og sammenligne dem med en populations baseret kontrolgruppe inden for psykopatologi, motorik, kognition og hjemmemiljø.
Methods
Vi rekrutterede 522 7-årige børn fra hele Danmark via danske registre (202 børn af forældre med skizofreni, 120 børn af forældre med bipolar lidelse og 200 kontrolbørn af forældre som ikke havde skizofreni og bipolar lidelse). Børneundersøgeren var blindet for barnets risikostatus.
Results
Børn fra familierne med skizofreni havde vanskeligheder på tværs af neurokognition, social kognition, sprogfunktion og motorik samt en højere forekomst af psykiatriske diagnoser og et utilstrækkeligt hjemmemiljø sammenlignet med børn fra kontrolfamilierne. Børn fra familier med bipolar lidelse adskilte sig ikke signifikant fra kontrolbørnene i forhold til kognition og motorik, men havde højere forekomst af psykiatriske diagnoser samt et utilstrækkeligt hjemmemiljø.
Conclusion
Børn af forældre med skizofreni og i mindre grad børn af forældre med bipolar lidelse har omfattende vanskeligheder allerede i 7 års alderen. Denne viden kan på sigt hjælpe os i udviklingen af forebyggende tiltag.

Korttids- og langstidseffekten af manualiseret behandling af kroniske tics hos børn og unge

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Background
Kroniske tics kan have en betydelig indflydelse på livskvaliteten. Således beskrives ofte påvirkning af koncentration, smerter, og oplevelser af drilleri. Habit reversal training (HRT) og eksponering og respons hindring (ERP) er effektive behandlinger. Metoderne har dog alene været afprøvet i individuelle terapier og har ikke været anvendt i kombination.
Objectives
Formålet med studiet var at undersøge den kliniske effekt af kombineret terapeutisk behandling af kroniske tics hos børn og unge. Effekten skulle undersøges ved individuel terapi og i gruppebehandling samt både lige efter afsluttet behandling og efter et års opfølgning. Herudover ønskede vi at beskrive mulige prædiktive faktorer for behandlingseffekt.
Methods
I et åbent randomiseret kontrolleret klinisk studie blev unge (9-17 år) randomiseret til individuel eller gruppebehandling. Begge terapier indeholdt ni sessioner. Forældrene blev tilbudt gruppebaseret undervisning. Behandlingseffekten blev vurderet efter 8 hhv 9 sessioner samt efter ½ og 1 år.
Results
Studiet viste en signifikant reduktion af Total Tic score (TTS) på Yale Global Tic Severity Scale (YGTSS) både som individuel terapi (effekt størrelse 1.21) og ved gruppebehandling (effekt størrelse 1.38). 66.7% blev anset som respondere. Internaliserende symptomer var associeret med en mindre reduktion i funktionel hæmning (FH). OCD var associeret med en større reduktion i TTS. Baseline hypersensitivitet og høj score på depressive symptomer favoriserede individuel behandling, hvorimod høj score af prætics (PUTS) favoriserede gruppebehandling. Den primære signifikante reduktion var fortsat tilstede efter et år. Latent klasse analyse viste, at den bedste model var en to-klasses model, hvor klasse 1 (58.7%) viste den største reduktion i TTS efter 8 sessioner (acute outcome) og herefter bevarede det lave symptomniveau i op til 1 år, hvorimod klasse 2 (41.3%) viste en mindre symptomreduktion, som over det opfølgende år dog også stabiliseredes. Faktorer som at være pige, have overbliksvanskeligheder/ADHD samt at være hypersensitiv øgede risikoen for at tilhøre klasse 2.
Conclusion
Den kombinerede behandling (HRT og ERP) viste en signifikant reduktion af TTS samt oplevet FH både ved individuel og gruppebehandling samt både lige efter behandlingen og ved 1 års opfølgning. Flere kliniske faktorer viste sig af betydning for behandlingseffekten, hvorfor grundig primær udredning er væsentlig. Behandlingen er beskrevet i tics manualen "Niks til Tics" som er udkommet på Akademisk forlag, maj 2018.

Effect of Group Cognitive Behavioral Therapy for Insomnia in Outpatients with Major Depression

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Abstract not available.

Distinct trajectories of long-term symptom severity in pediatric obsessive-compulsive disorder during and after stepped-care treatment

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Abstract not available.

Cannabidiol and S-ketamine antidepressant effects are associated with gene expression changes in the prefrontal cortex of the Flinders Sensitive Line rat

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Background
Cannabidiol (CBD) exhibit rapid antidepressant-like effects in rodent models, usually associated with neuroplastic changes in the prefrontal cortex (PFC). However, the molecular mechanisms underlying these effects are not yet known.
Objectives
Thereby, we investigated herein the effects induced by CBD and S-ketamine effects, another fast-acting antidepressant, in stress-induced gene expression in a genetic model of depression, Flinders Sensitive Line (FSL) rats.
Methods
Adult male FSL and their controls (FRL) were treated with CBD (30 mg/kg), S-ketamine (15 mg/kg) or vehicle and submitted to behavioral testing (open field and forced swimming, FST), 1h later. Animals were killed after testing to collect blood (CBD levels, LC-MS) and brain (PFC) samples for gene expression analysis: 48 genes (Fluidigm).
Results
Both CBD and ketamine reversed the depressive-like phenotype of FSL animals. However, no was no correlation between CBD blood levels and immobility time in the FST. FSL-VEH group showed decreased gene expression of plasticity-related genes, compared to FRL-VEH: BDNF, GSK-3β, TrkB, Nr2a and increase expression of GluR2. Interestingly, CBD attenuated the decreased expression of Nr2a in FSL rats ($p<0,05$) and Ketamine increase Vegfa in rats strain ($p<0,05$).
Conclusion
The results confirm impaired expression of genes related to neuroplasticity and synaptogenesis in FLS brain. Surprisingly, CBD and ketamine effects in gene expression were not overlapping, thus suggesting independent, but maybe convergent mechanisms associated to their antidepressant effects. Protein analysis in currently under investigation to further test this hypothesis.

Clinical validation of the six-item Positive And Negative Syndrome Scale (PANSS-6)

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Background
The psychometrically valid, PANSS-6 promises to improve the treatment of schizophrenia. However, the PANSS-6 was extracted from studies in which the 30-item PANSS ratings were obtained through the Structured Clinical Interview (SCI-PANSS). Therefore, it remains unknown whether it is possible to extract equally valid information for PANSS-6 ratings via the brief Simplified Negative And Positive Symptoms Interview (SNAPSI).
Objectives
To perform a clinical validation study of PANSS-6 ratings obtained via the SNAPSI, using PANSS-30 ratings obtained via SCI-PANSS as a gold-standard reference.
Methods
Participants were ≥18 years old, had schizophrenia and underwent inpatient treatment at Aarhus University Hospital. The SNAPSI/PANSS-6 and the SCI-PANSS/PANSS-30 were conducted by independent raters at two time-points. The degree to which the PANSS-6 (rated via SNAPSI) corresponds to PANSS-6 extracted from PANSS-30 (rated via SCI-PANSS) was tested using intra-class correlation coefficient (ICC) analysis. The sensitivity to change was tested by comparing the endpoint-baseline change in the PANSS-6 total scores to the endpoint-baseline change in the PANSS-30 derived PANSS-6 total scores via Spearman correlation analysis.
Results
A total of 77 inpatients with schizophrenia (age=35.3±11.8 years; males=56%) were included. Of these 65% were rated at two time-points. Time to complete the SNAPSI was 18.1±6.9 minutes. The ICC between the PANSS-6 total scores obtained via SNAPSI and the PANSS-30 derived PANSS-6 total scores was 0.77 [95%CI=0.62-0.85]. The Spearman correlation coefficient for changes in endpoint-baseline PANSS-6 and PANSS-30 derived PANSS-6 total scores was 0.69 ($p<0.001$).
Conclusion
The combination of SNAPSI and PANSS-6 enables a brief and valid assessment of the severity of core symptoms of schizophrenia. These results hold promise for the implementation of scalable measurement-based care in the treatment of schizophrenia.

Mechanical restraint episodes and psychological adjustment: a study of memories in healthcare providers and patients with schizophrenia

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Background
Mechanical restraint of psychiatric patients can have negative consequences on well-being in both care providers and patients. However, it may not only be exposure to mechanical restraint episodes, but also how they are remembered that is important for psychological adjustment.
Objectives
The aim of this study was to examine whether the importance and meaning attributed to memories of mechanical restraint episodes are related to well-being in care providers and patients with schizophrenia
Methods
80 healthcare providers and 20 patients with schizophrenia identified memories of mechanical restraint episodes and rated them on importance to identity including questions on their positive and negative influence. They also completed scales measuring symptoms of depression and post traumatic stress as well as life-satisfaction and well-being.
Results
Evaluating episodes as having had a central and negative influence on identity was related to more symptoms of psychopathology in both patients and care providers.
Conclusion
The results emphasize the need to consider individuals subjective interpretations of restraint episodes and not merely the objective facts surrounding them. Examining memories of restraint episodes may not only enrich our understanding of how they influence patients and care providers, but also enhance our ability to mitigate their negative impact on well-being.

Prescription drug use and related actionable drug-gene interactions in the Danish population

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Background
Pharmacogenetics (PGx) aims to improve drug therapy using the individual patients' genetic make-up. Little is known about the potential impact of PGx on the population level, possibly hindering implementation of PGx in clinical care.
Objectives
Therefore, we investigated how many patients use actionable PGx drugs, have actionable geno- or phenotypes and which patients could benefit the most of PGx testing.
Methods
We included PGx recommendations from two international PGx consortia (CPIC and DPWG). Using data from public Danish prescription registries (MEDSTAT), we identified the number of users of actionable prescription PGx drugs among the total Danish population in 2017. We estimated actionable geno- or phenotypes based on reported frequencies from literature.
Results
We identified 49 drug-gene interactions (DGIs) related to 41 unique prescription drugs. The estimated median frequency of actionable geno- or phenotypes among prescription drug users was 25% (interquartile range: 7-26%). Six out of 41 drugs were used more than twice as much in females. Actionable PGx drugs were most frequently used by 45-79 years olds (62%), followed by 25-44 year olds (18%). Almost half of the actionable PGx drugs (19/41) were psychotropics, i.e. antidepressants, antipsychotics or psychostimulants.
Conclusion
PGx testing can have a substantial impact on the population, as one in four prescription drug users has an actionable geno- or phenotype and could thus benefit from PGx testing. We advocate for prospective panel-based PGx testing at the time of the first PGx drug prescription ('as needed'), with PGx results ready prior to start of the first, and all future, therapies.

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Abstracts – posters

Poster nr. 1

Pharmacogenomics testing in Central Denmark Region between 2014 and 2018

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Background

Pharmacogenomics (PGx) tests to determine variations of drug metabolising enzymes have been available for some time, but are rarely applied, partly due to clinical barriers of implementation, e.g. missing infrastructure, and practical aspects of reporting and transferring knowledge to action.

Objectives

Due to current increasing awareness and developments in PGx with decreasing costs of testing, and improved infrastructure regarding electronic health care records since 2011, we investigated the current status of PGx testing in the Central Denmark Region and patient factors associated with PGx testing.

Methods

We conducted a cohort study with quality assurance aspects using anonymised data from psychiatric wards of the Central Denmark Region between 2014 and 2018. We included patients with a diagnosis of ICD10 F2, F3, or F4. We compared characteristics between patients with and without PGx testing using Cox regression analysis.

Results

We identified 40,532 patients. Of those, 97 had been PGx tested. Of those we could include 72 patients with information on characteristics and medication use available during 180 after their first hospital admission. Factors associated with PGx testing were age 20 to 30 years of the patient, calendar year 2017, and more outpatient visits before testing. We identified a spectrum of drugs positively associated with PGx testing with available actionable dose adjustment recommendations such as codeine, nortriptyline, clomipramine and venlafaxine.

Conclusion

PGx testing is still rare in Central Denmark Region. Increasing evidence and improved infrastructure have not increased uptake of PGx in clinical practice.

Poster nr. 2

A developmental perspective of working memory in children at familial high risk of schizophrenia or bipolar disorder – The Danish High Risk and Resilience Study

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Background
It has been found that children at familial high risk of schizophrenia (FHR-SZ) have working memory (WM) deficits. This has not been found in children at familial high risk of bipolar disorder (FHR-BD). Deficits in working memory have been suggested to be part of a transdiagnostic phenotype associated with adverse outcomes, e.g. daily functioning. The development of aspects of working memory as a phenotype for schizophrenia is not thoroughly understood and have not been examined in a large cohort within a narrow age range.

Objectives
Aims: 1) Investigate the development of WM from age seven to age 11 across familial high risk groups in schizophrenia or bipolar disorder compared to population based controls (PBC). 2) Investigate if deficits in aspects of WM at age seven predicts lower level of daily functioning at age 11.

Methods
VIA 11 is part of a nationwide cohort study – The Danish High Risk and Resilience Study consisting of 522 children who are either FHR-SZ (N=202), or FHR-BP (N=120) or PBC (N=200). The data collection ends summer 2020. WM is assessed using validated and age-appropriate neuropsychological tests targeting both spatial and verbal abilities, along with a multi-informant questionnaire.

Results
At age seven children at FHR-SZ showed deficits in WM compared to PBC, while children at FHR-BP did not. We expect that deficits in working memory will remain stable at age 11 and that deficits in working memory at age seven will predict lower level of daily functioning at age 11.

Conclusion
We hope to enhance current knowledge about the development in deficits in WM in children at FHR-SZ and FHR-BP and the relation to daily functioning.

Poster nr. 3

Time trends in diagnostic and developmental features in preschool children referred for an autism evaluation: a Danish population-based clinical cohort study, 2000-2010

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Abstract not available.

Poster nr. 4

Evaluation of α5 GABA-NAMs in animal models of depression

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Background

Depression is a life-threatening disease with high life-time prevalence, and new antidepressant pharmacotherapies that provide rapid relief of depressive symptoms are needed. The last decades, research within this field has focused on ketamine as a tool to understand the rapid antidepressant effect, but ketamine is not optimal in clinical settings due to psychotomimetic side effects and abuse potential. Negative allosteric modulators (NAMs) of GABA-A receptors are hypothesised to exert similar effects on brain activity as ketamine. However, they would not exert as many side effects if targeted only to receptors containing α5 subunits, a subunit enriched in the hippocampus and prefrontal cortex.

Objectives

We investigate the acute and sustained behavioural and molecular effects of α5 GABA-NAMs, a novel class of promising rapid acting antidepressant compounds, in distinct rat models of depression.

Methods

We used three in-house rat models of depression; the adrenocorticotropic hormone (ACTH) model and two genetic models of depression, The Flinders rats (males) and the Wistar Kyoto rats (males and females). We evaluated the antidepressant-like effect on of S-Ketamine (positive control) and the α5 GABA-NAM, L-655,708, in the open field and forced swim test 1 hour after a single injection.

Results

L-655,708 showed a reduction in immobility time in the forced swim test in the Flinders rats, the ACTH model, and the female Wistar Kyoto rats 1 hour after the injection. The male Wistar Kyoto rats did not respond to the L-655,708 nor to the S-Ketamine.

Conclusion

The α5 GABA-NAM, L-655,708, showed a rapid antidepressive-like effect in three of the four experiments.

Poster nr. 5

Exercise restores synaptic integrity in a rodent model of Parkinson's disease

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Abstract not available.

Poster nr. 6

Clinical validation of the self-reported Glasgow Antipsychotic Side-effect Scale (GASS)

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Background

Antipsychotic medication represents a cornerstone in the treatment of schizophrenia and other psychotic disorders. Unfortunately, use of antipsychotic medication is associated with significant side effects, including weight gain, sedation and parkinsonism. These side effects may reduce the quality of life and result in poor treatment adherence. Therefore, regular screening and monitoring of side effects is essential to ensure optimal treatment adjustment and outcomes. The UKU side effect scale (UKU) is the most comprehensive tool used to assess multi-domain side effects. This scale is administered by trained health care professionals based on a long semi-structured interview that precludes its widespread clinical use. To implement routine side effect screening in real-world settings, a less time-consuming rating scale is needed. The Glasgow Antipsychotic Side Effect Scale (GASS) is a patient self-report scale developed exactly for this purpose. Until now, GASS has only been validated using other self-report side-effect rating scales as the reference, which is suboptimal from a validation perspective.

Objectives

The objective of the present study was to perform a clinical validation of the GASS using the health care professional-administered UKU assessment as the gold standard reference. Specifically, we aimed to evaluate the following aspects of validity: I. … the concurrent criterion validity of the GASS, i.e. its sensitivity and specificity in detecting antipsychotic side effects. II. … the convergent validity of the GASS, i.e. whether reported side effects were associated with distress, reduced daily functioning, and reduced well being. III. … the feasibility of using the GASS for side effect screening in clinical practice.

Methods

A total of 81 outpatients with schizophrenia-spectrum disorders (mean age: 42 years, standard deviation (SD)=13; 43% males, 77% diagnosed with schizophrenia, mean illness duration: 15 years, SD=10), who received treatment with antipsychotic medication, completed the GASS and were subsequently rated on the UKU by a trained rater. Objective I: Concurrent criterion validity of GASS Corresponding GASS and UKU items were paired. The scores on the corresponding items on the GASS and UKU, respectively, were dichotomized as follows: “side effect not present” and “side effect present”. The specificity, sensitivity, positive predictive value (PPV) and negative predictive value (NPV) for the individual GASS items were calculated using the corresponding UKU items as reference. Objective II: Convergent validity of GASS The relationship between the GASS total scores and WHO-5 was quantified by correlation analysis (Spearman) Objective III: clinical feasibility of GASS The feasibility of using the GASS was evaluated by calculating the mean time to complete the GASS and the percentage of participants who asked questions regarding when completing the GASS were calculated.

Results

Statistical analysis showed satisfactory values with sensitivity >75%, specificity >70%, and NPV >79% for the majority of the GASS items. The Spearman correlation coefficient for the relationship between the GASS and WHO-5 total scores was -0.33, indicating that the total burden of self-reported side effects on the GASS correlates negatively with wellbeing as measured by the WHO-5. The mean time required to fill in the GASS was 4 minutes (SD=2). Only nine (11%) of participants had any questions when filling out the questionnaire.

Conclusion

The GASS demonstrated satisfactory validity as a self-rated screening tool for side effects of antipsychotics and may aid measurement-based care and decision-making in clinical practice.

Poster nr. 7

An evaluation of concomitant treatment and therapeutic drug monitoring in psychiatry in the Central Denmark region

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Background

Clozapine and olanzapine are frequently used to treat patients with schizophrenia spectrum disorders. Both drugs are metabolized by the Cytochrome P450 system enzyme (CYP) 1A2 in the liver. Potential drug-drug interactions involving this enzyme can lead to severe adverse effects or even death. Therapeutic drug monitoring (TDM) is a useful tool to monitor these treatments to avoid suboptimal or toxic blood levels of these drugs.

Objectives

We assessed if TDM was more frequent when clozapine and olanzapine patients were treated with CYP1A2 interacting drugs.

Methods

We used Business Intelligence data from the Central Denmark Region to identify all inpatients with an ICD10 F2 diagnosis from 2014-2018. For these patients, we extracted time stamped data of drug administrations and TDM. We calculated ratios with 95% confidence intervals for TDM-interventions relative to number of administration days (AD) and determined relative ratios (RR) for TDM between patients with and without concomitant interacting treatment.

Results

We identified 3946 hospitalized patients with a diagnosis of schizophrenia spectrum disorders. Of those, 2128 were treated with the olanzapine or clozapine during hospital admissions: clozapine only (n=202), olanzapine only (n=1618), or both (n=308). CYP1A2 interacting drugs included the inducer carbamazepine and the substrate haloperidol. Patients treated with only clozapine had a TDM-to-AD ratio of 0.11 (0.10; 0.11), while those with interacting treatment had a ratio of 0.47 (0.45; 0.49) with a RR of 4.4. For olanzapine, the ratios were 0.01 (0.01; 0.01) and 0.05 (0.04; 0.05), with a RR of 3.3.

Conclusion

TDM was significantly increased during concomitant, interacting treatment.

Poster nr. 8

The unhappy psychopath

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Abstract not available.

Poster nr. 9

Relapse of eating disorders during pregnancy and the postpartum period

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Abstract not available.

Poster nr. 10

Madpakkeprojekt – skizofreni, overvægt og diabetes

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Background

Patienter med skizofreni udgør en sårbar patientgruppe i sundhedsvæsnet med et kompleks behov for behandling, for at opnå øget sundhed. Den nedsatte sundhedstilstand er relaterede til skizofrenien blandt andet grundet psykotiske symptomer, negative symptomer og kognitive symptomer, men er også relateret til behandlingen af skizofrenien pga. metaboliske bivirkninger til den antipsykotiske medicinske behandling. En væsentlig grund til den nedsatte fysiske sundhed hos disse patienter skyldes deres overvægt, og kan på sigt forværre den psykiske sundhed og livskvalitet. Der er tidligere været kliniske forsøg med formål om vægtreduktion, desværre helt uden resultat. Patienter med skizofreni har som gruppe en nedsat middellevetid på 20 år. Idéen til projektet kommer fra en pårørende, som har hjulpet 2 patienter med skizofreni med vægttab med leverede energireducerede madpakker.

Objectives

Vægtreduktion ved hjælp af energireducerede leverede madpakker uden krav om aktivitet.

Methods

30 patienter tilbydes udbragt energireduceret kost i 2 år, og er deres egne vægtkontroller.

Results

forestående

Conclusion

Der er behov for at udvikle og afprøve interventioner, der har en effekt på de risikofaktorer for tidlig død, som er overrepræsenterede hos patienter med skizofreni. For at have effekt må interventionerne omhyggeligt og fleksibelt forankres i patienternes dagligdag, håbet er at energireduceret udbragt mad kan bidrage hertil ved hjælp af vægttab.

Poster nr. 11

Health anxiety symptoms on pediatric obsessive-compulsive disorder: patient characteristics and effect on treatment outcome

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Objectives

Helbredsangst (HA) karakteriseres ved en overdreven frygt for at have en alvorlig sygdom, hvor almindelige kropslige sensationer mistolkes som tegn herpå. HA formodes at være en overset lidelse hos børn og unge, da der ikke er aldersspecifikke kriterier til at stille diagnosen. I stedet diagnosticeres HA sandsynligvis som OCD hos denne aldersgruppe grundet overlappende kliniske karakteristika. Dette vil så vidt vi ved være det største kliniske studie, der undersøger den potentielle kliniske rolle af HA i børn diagnosticeret med OCD. Vi vil undersøge forskelle i demografiske og kliniske variable mellem pædiatrisk OCD med og uden HA-symptomer. Endvidere vil vi undersøge om tilstedeværelsen af HA-symptomer påvirker behandlingsudfaldet, men også hvordan behandlingen påvirker HA-symptomer.

Methods

Studiet baseres på allerede indsamlede data fra Nord LOTS med 269 børn og unge i alderen 7-17 år med OCD. OCD-symptomer og -sværhedsgrad blev vurderet med The Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS). CY-BOCS indeholder et item om HA-lignende tvangstanker og et om HA-lignende tvangshandlinger. K-SADS-PL blev brugt til at beskrive psykiatrisk ko-morbiditet, og SCARED til at vurdere angst-symptomer.

Results

Resultaterne forventes at kunne belyse om børn med HA-symptomer udgør en særlig subgruppe i pædiatrisk OCD, som kræver en anden udredning og behandling – og dermed potentielt afklare om disse børn bedre kan betragtes som havende HA end OCD. Sådanne resultater vil kunne bidrage til forbedring af fremtidige udrednings- og behandlingsforløb for børn og unge med OCD.

Poster nr. 12

A rating scale-derived Anxious Depression subtype does not predict treatment failure, response or remission in patients treated with SSRIs or placebo

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Background

In 2018, Ahmad and co-workers reported that an RDoC-inspired anxious depression (AD) subtype derived from the Hamilton Depression Rating Scale (HDRS) significantly predicted remission in antidepressant treated subjects participating in non-placebo-controlled studies in major depression.

Objectives

To investigate (1) whether the association replicated in antidepressant-treated patients participating in placebo-controlled studies, and (2) if it would be present also in placebo-treated patients

Methods

We conducted a pooled, post-hoc analysis of 4832 patients who had completed six weeks of treatment with a selective serotonin reuptake inhibitor or placebo. AD was defined according to the criteria proposed by Ahmad and colleagues. Logistic regression was used to assess the three outcomes treatment failure, response and remission. All outcomes were assessed by both the full 17 item HDRS and the unidimensional HDRS-6 subscale. We first assessed whether there was an interaction between treatment and AD for any outcome parameter on either outcome measure. If there was no interaction, we conducted follow-up analyses stratified by treatment.

Results

There were no interactions between treatment and AD for any outcome on either outcome measure. The AD subtype did not significantly predict any outcome on either outcome measure in the stratified analyses.

Conclusion

The association between HDRS-defined AD and remission reported by Ahmad and co-workers was not replicated. This could be due to differences in trial design, e.g., placebo-controlled vs non-placebo-controlled, 6 week vs 8 week trial duration, etc. Nonetheless, in this population, the AD subtype was not a useful predictor of treatment outcomes.

Poster nr. 13

Effect of Group Cognitive Behavioral Therapy for Insomnia in Outpatients with Major Depression

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Abstract not available.

Poster nr. 14

The challenges associated with psychopharmacological treatment and the cytochrome P450 system in psychiatric patients in the Central Denmark Region

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Background

Drug metabolism through the cytochrome P450 system (CYP) is genetically highly variable and vulnerable to drug interactions increasing the risk for decreased effectiveness and side effects.

Objectives

We investigated the extent of psychopharmacological treatment affected by the CYP system in psychiatric patients. Fluoxetine, an antidepressant and strong CYP2D6 inhibitor and substrate, has been associated with risk of intoxication and death. We therefore additionally focussed on fluoxetine alone and in combination with other CYP2D6 drugs and its impact on therapeutic drug monitoring (TDM).

Methods

We conducted a quality assurance project. Data was obtained through Business Intelligence office of Central Denmark Region, including all patients in contact with psychiatric hospitals (N=78682) in Central Denmark Region in 2014 to 2018. We identified all psychiatric main diagnoses, administrations of drugs metabolized by CYP, and TDM. We identified all patients with at least one administration of a CYP(2D6) drug as well as relevant concomitant drug use during inpatient contacts. We applied descriptive statistics.

Results

Among 16182 inpatients, nearly 87% were treated with CYP drugs, 61.6% were treated with CYP2D6 drugs and 20.7% were treated concomitantly with another CYP2D6 drug. On average, inpatients with CYP drugs were given 4.6 different drugs and inpatients using CYP2D6 drugs were given 1.8 different drugs. Sertraline, risperidone and aripiprazole were the most used CYP2D6 drugs and also the most frequent concomitant CYP2D6 drugs along with mirtazapine, accounting for 49% of all concomitant CYP2D6 drugs. Fluoxetine was only administered as concomitant CYP2D6 drug in 1.2%. TDM for fluoxetine was about 2.5 times more frequent when fluoxetine was given in combination with other CYP2D6 drugs than when given alone. TDMs for other CYP2D6 drugs in combination therapy with fluoxetine were performed on average once every 14 days. Most TDMs were performed during concomitant use with mirtazapine (41%), aripiprazole (28%) and atomoxetine (22%).

Conclusion

CYP drugs and CYP2D6 drugs were widely used and concomitant treatment with CYP2D6 drugs was common indicating a high potential for drug interactions. In accordance with recommendations for TDM, TDM was common in patients treated with fluoxetine in particular when used in combination with other CYP2D6 drugs.

Poster nr. 15

Compassion Cultivation Training (CCT) for informal caregivers of people who suffer from a mental illness

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Background
The 8-week structured and manualized Compassion Cultivation Training course is a promising intervention for cultivating compassion and reducing suffering. Caregivers of people who suffer from mental illness are at raised risk for mental health difficulties, such as depression, stress and anxiety. Caregivers become “hidden patients” who are struggling with their own psychological and physical health as well as providing care for someone with mental illness. There is an impetus to study preventive interventions to support caregivers that increase their psychological and physical health.
Objectives
It is hypothesized that caregivers in CCT will reduce psychological distress, relative to Waitlist Control (WLC) participants, as measured by the Depression Anxiety Stress Scales (DASS). It is also hypothesized that caregivers in CCT, relative to control participants, will increase compassion for self and others, show greater acceptance of difficult emotions and decrease emotion suppression as measured by Self-Compassion Scale Short Form (SCS-SF), Multidimensional Compassions Scale (MCS), Perceived Stress Scale (PSS), and the Emotion Regulation Questionnaire (ERQ).
Methods
A total of 160 participants were recruited. We used block randomization with 20 participants in each group totaling 8 groups with four intervention and 4 WLC groups. Self-report questionnaires were used at baseline, post 8-week intervention, 3- and 6-month follow-up. The Primary psychological measure was the Depression Anxiety Stress Scales. Secondary psychological measures were: Perceived Stress Scale, the Emotion Regulation Questionnaire, the Self-compassion Scale-12, the Multidimensional Compassion Scale, the Five Facet Mindfulness Scale, the Brief Resilience Scale, and the World Health Organization Five Well-Being Index. Process measures used was the Working Alliance Inventory Short Form Revised and demographic baseline measures were asked.
Results
92% of the caregivers completed the intervention and 74% completed 6 or more sessions. If we include caregivers who completed 5 or more session the percentage increase to 87,7%.
Conclusion
We conclude that an intervention for informal caregivers, like CCT, is not only feasible, there is also very a low attrition rate.

Poster nr. 16

The Hamilton Depression Rating Scale Measures Side Effects and Therefore Underestimates the Antidepressant Effect of SSRIs and SNRIs

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Abstract not available.

Poster nr. 17

Do subclinical autism spectrum symptoms predict the cognitive behavioral therapy outcome and other clinical correlates in pediatric obsessive-compulsive disorder?

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Background
Subclinical autism spectrum disorder symptoms (ASDS) in pediatric obsessive-compulsive disorder (OCD) are more frequent than in normal controls with a prevalence rate of up to 32.5%. Little is known about this group of patients regarding clinical profile and treatment outcome.

Objectives
The aim was to investigate whether (ASDS) predict cognitive behavioral therapy (CBT) outcome in pediatric OCD. In addition, our aim was to explore whether children with OCD and ASDS symptoms can be differentiated from children with OCD but without ASDS symptoms based on clinical characteristics, distinct OCD symptom patterns, and patterns of comorbidity.

Methods
The participants in this study were all included in the Nordic long-term OCD treatment study (NordLOTS), that included a total of 269 children and adolescents aged 7–17 years, recruited from Denmark, Sweden, and Norway. Inclusion criteria were an OCD diagnosis based on DSM-IV criteria and a Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS) total severity score of 16 or higher. An Autism Spectrum Screening Questionnaire (ASSQ) cut-off score of ≥17 was used to define the group of OCD patients with subclinical ASDS and all participants were treated with 14 weekly sessions of manualized, exposure-based CBT.

Results
The OCD+ASDS group consisted of 25 patients, while there were 232 patients without ASDS. The OCD+ASDS group had a higher ratio of boys compared with the non-ASDS group ($p = 0.014$). The CY-BOCS total score ($p = 0.035$), compulsion severity ($p = 0.042$), insight ($p = 0.005$), indecisiveness ($p = 0.040$) and pervasive slowness ($p < 0.001$) were all found to be higher in the OCD+ASDS group compared to the OCD group. Also, this group had more cases with ADHD ($p < 0.001$) and tic disorders ($p < 0.001$) and scored higher on all CBCL syndrome scales included (all p-values < 0.001). No difference was found between the groups regarding other co-morbid symptoms measured. Symmetry obsessions ($p < 0.01$), repeating rituals ($p < 0.01$) and ordering/arranging compulsions ($p < 0.01$) were significantly more frequent in the OCD+ASDS group compared to the OCD group. Both the OCD+ASDS group and OCD group improved significantly over the course of treatment when evaluated with the CY-BOCS severity rating with no difference between the groups on the level of improvement ($p = 0.984$).

Conclusion
Results from the study suggest that children and adolescents with OCD and ASDS portray with a different clinical profile than those without, but that CBT is equally effective for those with and without ASDS.

Poster nr. 18

Development of the Health Anxiety by Proxy Scale: A new measure for excessive parental worries for children's health

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Background

Health anxiety by proxy is defined as parents' obsessive worries about their child's health. The parents' intrusive and unpleasant thoughts about their child's health may cause physical examinations of their child and an increased number of health care contacts. Thus, health anxiety by proxy is an important issue in both preventive and treatment settings. Still, no instrument exist to assess health anxiety by proxy and the condition often goes unnoticed.

Objectives

This study aimed at developing the Health Anxiety by Proxy Scale (HAPYS), a measure for excessive parental worries for children's health.

Methods

The development of the HAPYS involved three main steps: 1. Qualitative interviews with 7 patients clinically judged to suffer from health anxiety by proxy, 2. Questionnaire development in close collaboration with an expert panel, and 3. Pilot testing of the HAPYS with both well parents and parents with health anxiety by proxy. The HAPYS was continuously adjusted to the feedback from experts and patients.

Results

The final version of HAPYS has 26 items with an additional impact section with five items. The items covers thoughts, feelings and behavior characteristic of health anxiety by proxy. HAPYS has shown to possess good face and content validity.

Conclusion

Development of questionnaires should optimally be performed systematically and with patients involved. The HAPYS is the first systematically developed questionnaire to assess health anxiety by proxy. Results indicate that it is a valid tool to assess health anxiety by proxy, with the potential of helping clinicians with parents suffering from this condition. The HAPYS is currently being further psychometrically evaluated in a larger sample.

Poster nr. 19

Immediate early gene expression following a single administration of psilocybin

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Background

Psilocybin-assisted psychotherapy has recently shown a therapeutic potential for treatment-resistant depression, anxiety and addiction. The underlying neurobiological mechanisms are currently unknown, but have been suggested to rely on an acute induction of neuroplasticity.

Objectives

We examined the hypothesized boost in neuroplasticity by measuring immediate early genes (IEGs) related to synaptic plasticity, synaptic proteins and neurotrophic factors after a single administration of psilocybin.

Methods

Rats were administered a single, intraperitoneal injection of psilocybin. 90 minutes later, the rats were sacrificed and brain regions were dissected. Changes in immediate early gene expression and protein expression were assessed in the frontal cortex and hippocampus, using reverse transcriptase quantitative polymerase chain reaction and Western blotting, respectively.

Results

Psilocybin rapidly induced the expression of plasticity-related IEGs in both the hippocampus and frontal cortex. The frontal cortex showed additional upregulation of IEGs related to high neuronal activity. Some of the corresponding proteins were also regulated at this early time point.

Conclusion

We found that a single administration of psilocybin dose-dependently increased the expression of IEGs related to synaptic plasticity, with a preferential action on the frontal cortex. These rapid transcriptional responses may reflect the beginnings of long-term neuroadaptive processes that may facilitate the putative therapeutic effects of the drug.

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Poster nr. 20

Group based Cognitive Behavioural Therapy for Anxiety in Children with Autism Spectrum Disorder: A randomised trial in a general hospital setting

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Abstract not available.

Poster nr. 21

Investigation of Selected microRNAs in a Chronic Mild Stress Model

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Background

Major depressive disorder is a widespread and serious illness, with major clinical and sociological importance. Today the diagnosis of depression is based only on symptoms. This is critical, as many of the symptoms are overlapping in psychiatric disorders. MicroRNA (miRNA) are non-coding regulatory RNAs, and their expression seems to be regulated in many diseases, including depression. miRNAs are very stable and easily obtainable, making them suitable as biomarkers of disease.

Objectives

The aim of this study was to investigate whether miRNAs targeting BDNF and VEGF, two neurotrophins hypothesized to be important in depression, differ in expression in relation to depression and antidepressant treatment. This was explored in the dorsal and ventral hippocampus (HPC), prefrontal cortex (PFC) and blood of non-treated and vortioxetine-treated anhedonic-phenotypic chronic mild stress (CMS) rats, an animal model of depression.

Methods

We selected miRNAs targeting BDNF and VEGF based on in silico analyses, using 4 online databases and literature. We selected miRNAs overlapping in the different databases and prioritized them based on their predicted score. 30 miRNAs were selected. We analyzed miRNA expression using real-time quantitative PCR (qPCR).

Results

In ventral HPC, miR-103a-3p was downregulated in anhedonic rats compared to controls, whereas miR-125b-5p showed the same pattern in dorsal HPC. Furthermore, miR-103a-3p was increased in ventral HPC, and miR-195-5p was increased in dorsal HPC, of rats that had received vortioxetine treatment compared to non-treated anhedonic rats, whereas this was the case for miR-30d-5p and miR-185-5p in PFC. The expression of 6 relevant genes, including Bdnf and Vegf, was investigated as well, but none were significantly regulated.

Conclusion

In conclusion, this study indicates that some miRNAs targeting neurotrophins may be regulated in response to depression and antidepressant treatment. However, further studies need to be completed to fully understand and utilize their potential as biomarkers.

Poster nr. 22

Validerede screeningsredskaber til identificering af selvskadende tanker og handlinger uden selvmordsintention: et systematisk review

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Background

I opsporingen af selvskade er det væsentligt at skelne mellem den bagvedliggende årsag til selvskaden og sondre mellem selvskade og selvmordsforsøg. Aktuelt findes der ikke et dansk, valideret og klinisk anvendeligt tværdiagnostisk redskab til identificering af selvskadende tanker og handlinger uden selvmordsintention, hvilket er nødvendigt for korrekt behandling og for at skabe en epidemiologisk viden til afdækning af området.

Objectives

At gennemføre en systematisk litteraturgennemgang af eksisterende validerede redskaber til identificering af selvskadende tanker og handlinger uden selvmordsintention.

Methods

Systematisk søgning blev foretaget på MEDLINE, EMBASE og PsychINFO. Screening af abstrakts blev foretaget af JNK og CLK. Ved uenighed blev konsensus dannet i samråd med TH og SD. PRISMA guideline blev fulgt. Kvalitet af redskabernes psykometriske egenskaber blev undersøgt ved brug af COSMIN [1].

Results

240 unikke abstracts blev identificeret, hvoraf 193 blev ekskluderet, fordi de ikke mødte inklusionskriterierne. Ved artikelgennemlæsning blev 14 artikler godkendt som valideringsstudier. De inkluderede studier undersøgte 13 forskellige screeningsredskaber, der primært er spørgeskemaer, mens 2 er interviewform. 9 redskaber valideres i baggrundsbefolkningen, og resten i kliniske populationer, heraf et studie med indlagte patienter.

Conclusion

Hvis man kan identificere selvskadende tanker og handlinger, og psykopatologisk udrede og målrette behandlingen mere systematisk, vil vi forhåbentlig kunne nedbringe både de menneskelige og samfundsmæssige omkostninger. De 13 identificerede redskaber undersøger systematisk årsag, form og hyppighed. Farlighed undersøges af 5 redskaber, men mindre systematisk. Redskabernes kliniske brug begrænses af, at de fleste er valideret i baggrundsbefolkningen. Der mangler således fortsat klinisk anvendelige redskaber til vurdering af selvskade i psykiatrien.

Mokkink, L., Terwee, C., Knol, D., Stratford, P., Alonso, J., Patrick, D., Bouter, L. & De Vet, H. 2006, "Protocol of the COSMIN study: COnsensus-based Standards for the selection of health Measurement INstruments", BMC Medical Research Methodology vol. 6, no. 2, pp. 1-7.

Poster nr. 23

Can faecal solutions from patients diagnosed with depression transplanted into rats induce a depressive-like phenotype?

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Background

Patients with Major Depressive Disorder (MDD) have been found to harbour a significantly different gut microbial composition. Only a few studies have attempted to examine whether these difeences have a functional implication in the development of depression.

Objectives

The aim of this study is to analyse whether faecal microbiota transplantation (FMT) from patients with depression into a rat model can induce a depressive-like behaviour.

Methods

Pooled and homogenized faecal samples from five patients diagnosed with depression and five sex- and age-matched controls, respectively, were orally transplanted into the Flinders Resistant Line rats thrice a week for three weeks. The Open Field Test and the Forced Swim Test were used to evaluate the anxiety- and depressive-like phenotypes. Faecal samples from the rats were collected prior to and subsequent FMT.

Results

Animals whom received FMT from patients had increased immobility in the Forced Swim Test compared to healthy controls, an effect ameliorated by administration of Sertraline. Operational Taxonomic Units (OTUs) derived from the human donors colonized the recipients, but α- and β-diversity were not significantly different between pre- to post-transplantation. Seventeen OTUs were expressed at a relatively higher and eight in a relatively lower abundance in recipients of FMT from patients compared to control. Five of these OTUs were recognized as originating from the human donor.

Conclusion

FMT from patients with depression into recipient animals can induce a depressive-like phenotype and a simultaneous change in gut microbiota was observed. The five OTUs arising from the human donors may be the potential drivers of the behavioural changes.

Poster nr. 24

A transdiagnostic sleep and circadian treatment for inpatients with affective disorders, a mixed methods pilot study

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Background

Sleep problems are highly prevalent for inpatients with affective disorders. A transdiagnostic approach combining cognitive behavioral therapy for insomnia and chronotherapy has proven efficient to treat sleep disturbances in patients with mental disorders. However, only few studies have investigated the feasibility and effect of this treatment for patients admitted in mental health wards.

Objectives

To investigate the feasibility of a transdiagnostic sleep and circadian intervention for inpatients with sleep problems comorbid to affective disorders.

Methods

A mixed model design was applied, comprising a six week prospective follow-up study and semi-structured individual interviews. Adult inpatients with unipolar depression or affective bipolar disorder comorbid to a sleep problem were eligible for inclusion. The intervention consisted of 6 individual sessions. Primary outcomes were reduction in Insomnia Severity Index (ISI) and Pittsburgh Sleep Quality Index (PSQI). Pre-post tests using t-test was preformed. The interview data was analyzed using thematic analysis.

Results

Ten patients were included. For the completers mean ISI score decreased from 20.4 to 12 (p=0,03) and the PSQI score from 17,6 to 13.2 (p=0.06). The qualitative analysis revealed 2 themes: "New insights" representing the positive outcomes of the intervention on patients sleep. Another called "Conflicting interests" representing the patients` challenges having to change sleep habits while being admitted.

Conclusion

The patients' sleep problems were significantly reduced and patients were in general positive regarding the intervention. However, as the dropout rate in the study was high (50%) it is relevant to consider whether a 6-week sleep intervention is suitable in an inpatient setting.

Poster nr. 25

Clinical validation of the six-item Positive And Negative Syndrome Scale (PANSS-6)

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Background

The psychometrically valid, PANSS-6 promises to improve the treatment of schizophrenia. However, the PANSS-6 was extracted from studies in which the 30-item PANSS ratings were obtained through the Structured Clinical Interview (SCI-PANSS). Therefore, it remains unknown whether it is possible to extract equally valid information for PANSS-6 ratings via the brief Simplified Negative And Positive Symptoms Interview (SNAPSI).

Objectives

To perform a clinical validation study of PANSS-6 ratings obtained via the SNAPSI, using PANSS-30 ratings obtained via SCI-PANSS as a gold-standard reference.

Methods

Participants were ≥18 years old, had schizophrenia and underwent inpatient treatment at Aarhus University Hospital. The SNAPSI/PANSS-6 and the SCI-PANSS/PANSS-30 were conducted by independent raters at two time-points. The degree to which the PANSS-6 (rated via SNAPSI) corresponds to PANSS-6 extracted from PANSS-30 (rated via SCI-PANSS) was tested using intra-class correlation coefficient (ICC) analysis. The sensitivity to change was tested by comparing the endpoint-baseline change in the PANSS-6 total scores to the endpoint-baseline change in the PANSS-30 derived PANSS-6 total scores via Spearman correlation analysis.

Results

A total of 77 inpatients with schizophrenia (age=35.3±11.8 years; males=56%) were included. Of these 65% were rated at two time-points. Time to complete the SNAPSI was 18.1±6.9 minutes. The ICC between the PANSS-6 total scores obtained via SNAPSI and the PANSS-30 derived PANSS-6 total scores was 0.77 [95%CI=0.62-0.85]. The Spearman correlation coefficient for changes in endpoint-baseline PANSS-6 and PANSS-30 derived PANSS-6 total scores was 0.69 ($p<0.001$).

Conclusion

The combination of SNAPSI and PANSS-6 enables a brief and valid assessment of the severity of core symptoms of schizophrenia. These results hold promise for the implementation of scalable measurement-based care in the treatment of schizophrenia.

Poster nr. 26

Biomarkers of depression - focusing on non-coding RNA

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Background

There is an unmet need to identify biomarkers of depression that can serve as supporting diagnostic tools. A large body of evidence has demonstrated that microRNAs (miRNAs) have such biomarker potential as they are altered by stress and have been associated with depression. New studies suggest that dermal fibroblasts are a relevant and much underutilized model for studying molecular processes as they share key signal transduction pathways with neuronal tissue. It has furthermore been shown that a list of 38 miRNAs exhibit deregulation in the dermal fibroblasts of human depressed subjects compared to controls (Garbett et al. 2015). However, the specificity of the 38 miRNAs to the depressive phenotype remain to be elucidated as the human patients exhibit great heterogeneity.

Objectives

By utilizing rat models of depression, we are able to make a reduced-variability comparison between control and depressive-like animals. Furthermore, as miRNAs extracted from fibroblast cultures may in many ways be inappropriate when compared to flash-frozen skin-biopsies, we also compare miRNA profiles in flash-frozen skin-biopsies and fibroblast cultures.

Methods

Genetic rat models of depression include the Flinders rats and the Wistar Kyoto rats. Stress models include the adrenocorticotropic hormone (ACTH) model and the chronic mild stress (CMS) model. Skin biopsies were taken from ear tissue and either flash-frozen or cultured into fibroblast cultures. The miRNA expression was subsequently measured using SYBR-green real-time qPCR assays.

Results

We re-identified 3 times more deregulated miRNAs in flash-frozen skin-biopsies when compared to the corresponding fibroblast cultures. miRNA deregulations are thus likely "washed out" during the cultivation process. 15 distinct miRNA-deregulations were re-identified in the skin of the four rat models (ACTH, Chronic mild stress, Flinders and Wistar Kyotos) and 3 miRNAs overlapped directly between the models.

Conclusion

We re-identified several miRNAs from the human study in our depressive-like rat models. While each of the four rat models is quite distinct, they all have the depressive phenotype in common. It can therefore be speculated, that miRNA alterations overlappi

Garbett KA, Vereczkei A, Kálmán S, et al. Coordinated Messenger RNA/MicroRNA Changes in Fibroblasts of Patients with Major Depression. Biol Psychiatry. 2015;77(3):256-265. doi:10.1016/j.biopsych.2014.05.015

Poster nr. 27

Investigation of the activin pathway in rodent models of depression with s-ketamine treatment

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Background

The activation of the activin A pathway in the dentate gyrus (DG) and in the prefrontal cortex (PFC) has been associated with non-depressive behaviour and antidepressant-like effects, when induced in rodent models of depression. This pathway can be modulated with slow acting antidepressants such as fluoxetine and desipramine, but the molecular mechanism with s-ketamine, a fast-acting antidepressant, remains unclear.

Objectives

This study aims to characterise the expression profile of the activin pathway in the hippocampus (HIP) and PFC with treatment of s-ketamine in Flinders Sensitive Line (FSL) rats, a rodent of depression.

Methods

FSL rats were IP administered 15 mg/kg s-ketamine 1 hour prior to behavioural analysis (open field and forced swim test (FST)) and decapitated, where the PFC, ventral and dorsal HIP were dissected for further molecular analysis. Subsequently, RNA from the respective tissues will be extracted and expression profiles from 6 genes encoding components in the activin pathway will be examined, determining the relative CT values with Real-Time quantitative PCR.

Results

. S-ketamine reversed the depression-like symptoms in the FSL rats compared to FSL rats receiving vehicle and the FRL control rats in the FST.

Conclusion

Obtaining an activin pathway expression profile, will illuminate the molecular mechanism of s-ketamine's effects and provide novel information on how the activin profile can be modulated with fast acting antidepressants in FSL rats.

Poster nr. 28

Mindfulness as an intervention for ADHD? A review of the literature

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Abstract not available.

Poster nr. 29

Prescription drug use and related actionable drug-gene interactions in the Danish population

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Background

Pharmacogenetics (PGx) aims to improve drug therapy using the individual patients' genetic make-up. Little is known about the potential impact of PGx on the population level, possibly hindering implementation of PGx in clinical care.

Objectives

Therefore, we investigated how many patients use actionable PGx drugs, have actionable geno- or phenotypes and which patients could benefit the most of PGx testing.

Methods

We included PGx recommendations from two international PGx consortia (CPIC and DPWG). Using data from public Danish prescription registries (MEDSTAT), we identified the number of users of actionable prescription PGx drugs among the total Danish population in 2017. We estimated actionable geno- or phenotypes based on reported frequencies from literature.

Results

We identified 49 drug-gene interactions (DGIs) related to 41 unique prescription drugs. The estimated median frequency of actionable geno- or phenotypes among prescription drug users was 25% (interquartile range: 7-26%). Six out of 41 drugs were used more than twice as much in females. Actionable PGx drugs were most frequently used by 45-79 years olds (62%), followed by 25-44 year olds (18%). Almost half of the actionable PGx drugs (19/41) were psychotropics, i.e. antidepressants, antipsychotics or psychostimulants.

Conclusion

PGx testing can have a substantial impact on the population, as one in four prescription drug users has an actionable geno- or phenotype and could thus benefit from PGx testing. We advocate for prospective panel-based PGx testing at the time of the first PGx drug prescription ('as needed'), with PGx results ready prior to start of the first, and all future, therapies.

Poster nr. 30

Patterns of treatment in severe anorexia nervosa

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Abstract not available.

Poster nr. 31

Internet-based psychoeducation as tertiary prevention of relapse, recurrence and readmission for adult bipolar disorder - a protocol of an RCT

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Background

Bipolar disorder (BD) is a serious and costly mental health disorder, the treatments of which appear limited in capacity to protect against relapse and recurrence. Fortunately, there seems to be convincing evidence that psychoeducation is effective as relapse prevention for BD, particular when patients are in a euthymic state. However, this service draws heavily on clinician resources which represents an implementation barrier. To overcome this barrier, it may be possible to deliver the service by the aid of Internet-based programs, which have demonstrated effectiveness in the treatment of many mental health disorders. Nonetheless, there is very little literature on the use of Internet-based programs to deliver psychoeducation to BD patients and with mixed quality and results. It is this gap in the literature the present study seeks to illuminate.

Objectives

To test the effectiveness on relapse, recurrence and readmission of providing adult BD patients access to an Internet-based psychoeducation program post discharge.

Methods

The study is designed as a two-arm randomised controlled trial. All participants are adults diagnosed with bipolar disorder according to WHO ICD-10 and are about to be discharged from standard outpatient treatment from Aarhus University Hospital. Primary outcome will be readmission to the hospital. Secondary outcomes will be relapse during the period of remission, recurrence after recovery and functional level. Primary outcome is measured by use of the Danish Central Psychiatry Register. Secondary outcomes will be measured by standardised questionnaires. HAM-D6 >5 signifies cut-off to clinical level of depressive symptoms and ASRM ≥6 for the for manic episodes. Patients will be measured at baseline and at three-, six-, and twelve months follow-up.

Results

Results are expected 2021

Conclusion

We expect the intervention to significantly reduce relapse, recurrence and readmission.

Poster nr. 32

EFFICACY OF REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION FOR THE TREATMENT OF BIPOLAR DEPRESSION

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Background

Bipolar disorder is defined by its mood swings from manic episodes to depressive episodes. As the prevalence of the disease is approximately 2 %, it is a significant challenge in the modern health care system with depressive episodes contributing to the majority of disease burden. Despite having undergone pharmacological therapy, many patients with bipolar disorder experience either residual depressive symptoms or treatment-resistant depression highlighting the lack of control of bipolar depression with few options available. Repetitive transcranial magnetic stimulation (rTMS) could serve as a possible treatment option for these challenges. As the efficacy of rTMS on major depressive disorder has been described in-depth, bipolar depression has also been a potential target for this modality in newer studies. We sought to gather all available data from these studies and evaluate the efficacy of rTMS on bipolar depression. This was carried out in a systematic review and meta-analysis.

Objectives

To examine the efficacy of repetitive transcranial magnetic stimulation (rTMS) in adults with bipolar depression.

Methods

The study is based on two meta-analyses on bipolar depression and both bipolar and unipolar depression. These meta-analyses were searched for relevant studies. An update on the literature search strategy from these studies of PubMed, Embase and PsycINFO was conducted and randomized sham-controlled trials (RCT) of rTMS were included.

Results

20 studies were identified of which 14 were included totalling 274 patients. The literature search yielded 500 results, but no studies met the inclusion criteria. The response rates were higher in rTMS compared to sham-treatment (OR = 2.72. 95-%-CI (1.44;5.14)). Efficacy was seen for high-frequency rTMS over the left DLPFC (OR = 2.57. 95 %-CI (1.17;5.66)), but not for low-frequency rTMS of the right DLPFC or bilateral rTMS.

Conclusion

The main finding suggests an effect of rTMS on bipolar depression – especially driven by the studies on high-frequency rTMS over the left DLPFC. But the evidence is sparse, and it is premature to firmly conclude the efficacy of rTMS on bipolar depression.

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Mutz, J., Edgcumbe, D. R., Brunoni, A. R., & Fu, C. H. Y. (2018). Efficacy and acceptability of non-invasive brain stimulation for the treatment of adult unipolar and bipolar depression: A systematic review and meta-analysis of randomised sham-controlled trials. Neurosci Biobehav Rev, 92, 291-303. doi:10.1016/j.neubiorev.2018.05.015

Poster nr. 33

Clinical validation of PANSS-6, a brief rating scale to measure symptom severity

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Background
In the treatment of schizophrenia there is a need for rating scales that can be used routinely to monitor the severity of symptoms and to help adjust treatment accordingly. The most widely used schizophrenia rating scale is the 30-item Positive And Negative Syndrome Scale (PANSS-30), which takes approximately an hour to administer. However, this is too long for routine clinical use. Therefore, based on item response theory analysis, our group has extracted a 6-item scale (PANSS-6), which has shown promising psychometric properties. To allow for targeted rating of PANSS-6, our group has developed a brief semi-structured interview, SNAPSI.

Objectives
The objective of this PhD study is to investigate to which degree PANSS-6 scores rated based on a shorter interview (SNAPSI) correspond to PANSS-6 scores extracted from PANSS-30 ratings obtained using the full structured clinical interview for PANSS (SCI-PANSS).

Methods
Consenting adults (n=75) with a diagnosis of schizophrenia, undergoing outpatient treatment, will be interviewed with both SNAPSI and SCI-PANSS within 24 hours (random order). Interviews will be conducted by two independent interviewers and followed by independent PANSS-6 and PANSS-30 ratings. The degree to which PANSS-6 (based on SNAPSI) correspond to PANSS-6 extracted from PANSS-30 will be quantified by computing intraclass correlation coefficients (at the total score and individual item level).

Results
Data collection is ongoing.

Conclusion
If the results are satisfactory, the perspectives of PANSS-6 include bridging the gap between research and clinical care and enabling measurement-based care of schizophrenia.

Poster nr. 34

Korttids- og langstidseffekten af manualiseret behandling af kroniske tics hos børn og unge

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Background

Kroniske tics kan have en betydelig indflydelse på livskvaliteten. Således beskrives ofte påvirkning af koncentration, smerter, og oplevelser af drilleri. Habit reversal training (HRT) og eksponering og respons hindring (ERP) er effektive behandlinger. Metoderne har dog alene været afprøvet i individuelle terapier og har ikke været anvendt i kombination.

Objectives

Formålet med studiet var at undersøge den kliniske effekt af kombineret terapeutisk behandling af kroniske tics hos børn og unge. Effekten skulle undersøges ved individuel terapi og i gruppebehandling samt både lige efter afsluttet behandling og efter et års opfølgning. Herudover ønskede vi at beskrive mulige prædiktive faktorer for behandlingseffekt.

Methods

I et åbent randomiseret kontrolleret klinisk studie blev unge (9-17 år) randomiseret til individuel eller gruppebehandling. Begge terapier indeholdt ni sessioner. Forældrene blev tilbudt gruppebaseret undervisning. Behandlingseffekten blev vurderet efter 8 hhv 9 sessioner samt efter ½ og 1 år.

Results

Studiet viste en signifikant reduktion af Total Tic score (TTS) på Yale Global Tic Severity Scale (YGTSS) både som individuel terapi (effekt størrelse 1.21) og ved gruppebehandling (effekt størrelse 1.38). 66.7% blev anset som respondere. Internaliserende symptomer var associeret med en mindre reduktion i funktionel hæmning (FH). OCD var associeret med en større reduktion i TTS. Baseline hypersensitivitet og høj score på depressive symptomer favoriserede individuel behandling, hvorimod høj score af prætics (PUTS) favoriserede gruppebehandling. Den primære signifikante reduktion var fortsat tilstede efter et år. Latent klasse analyse viste, at den bedste model var en to-klasses model, hvor klasse 1 (58.7%) viste den største reduktion i TTS efter 8 sessioner (acute outcome) og herefter bevarede det lave symptomniveau i op til 1 år, hvorimod klasse 2 (41.3%) viste en mindre symptomreduktion, som over det opfølgende år dog også stabiliseredes. Faktorer som at være pige, have overbliksvanskeligheder/ADHD samt at være hypersensitiv øgede risikoen for at tilhøre klasse 2.

Conclusion

Den kombinerede behandling (HRT og ERP) viste en signifikant reduktion af TTS samt oplevet FH både ved individuel og gruppebehandling samt både lige efter behandlingen og ved 1 års opfølgning. Flere kliniske faktorer viste sig af betydning for behandlingseffekten, hvorfor grundig primær udredning er væsentlig. Behandlingen er beskrevet i tics manualen "Niks til Tics" som er udkommet på Akademisk forlag, maj 2018.

Poster nr. 35

Non-pharmacological interventions for preventing weight gain in patients with first-episode schizophrenia or bipolar disorder

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Background
Weight gain is a common side effect of antipsychotic medication and highly prevalent in people with schizophrenia or bipolar disorder, increasing their overall cardio-metabolic risk.
Objectives
The objectives of this review was to identify and evaluate the effectiveness of non-pharmacological interventions for preventing and reducing weight gain in young, first-episode patients with schizophrenia or bipolar disorder.
Methods
We searched major electronic databases from inception to 04/2019 on RCTs, pre- and post-test studies, and non-randomized controlled clinical trials, comprising young patients with first-episode schizophrenia or bipolar disorder aged between 15–25 years engaged in any non-pharmacological interventions for preventing weight gain or increase in waist-circumference
Results
From the 2963 hits, eight studies met the inclusion criteria (n=438, mean age of 18.8 (13–45) years)). The interventions comprised supervised and adjusted aerobic exercise (5 studies), individual lifestyle counselling(2 RCTs), and dietetic counselling, practical training of cooking and shopping (1 study).Two prospective studies in which participants underwent weekly, supervised aerobic exercise found a significant decrease in WC of 4.3 cm (p=0.015) and 2 cm (p=0.008), respectively. Similar, participants receiving 12 weeks of practical dietetic counselling had a significant decrease in WC of approximately 2 cm (P=0.04).Two RCTs of behavioural weight and healthy lifestyle counselling found no significant differences in weight or waist circumference between intervention and control group.
Conclusion
Physical activity and practical dietetic interventions seem to be more efficient than lifestyle counselling. However, the results shall be taken with caution due to the non-randomized designs and other methodologically deficits in the majority of the included studies.

Poster nr. 36

The impact of patient interview on medication review in an inpatient psychiatric hospital ward

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Abstract not available.

Poster nr. 37

Prevalence and self-disclosure of mental illness among physicians and psychologists working in psychiatric services

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Background

Over the past decades there has been an increased focus on mental health of healthcare professionals. However, there is limited knowledge on the mental health of healthcare professionals working in psychiatric services.

Objectives

This study addressed four research questions related to this topic: I. What is the prevalence of (self-reported) mental illness among physicians and psychologists working in psychiatric services in Denmark? II. To what extent do physicians and psychologists with mental illness working in psychiatric services seek treatment? III. Do physicians and psychologists with mental illness working in psychiatric services disclose their illness to colleagues or patients? IV. How do physicians and psychologists with mental illness working in psychiatric services perceive the impact of their illness on their work?

Methods

An online questionnaire focusing on the four research questions outlined above was distributed to physicians and psychologists working in psychiatric hospitals in Denmark.

Results

A total of 258 physicians and 130 psychologists filled in the questionnaire. The prevalence of self-reported mental illness (either current or past) was 31%. 22% had not sought treatment despite meeting criteria for a mental illness. Among those having a mental illness, 42% had shared this information with one or more colleagues and 26% had shared the information with at least one patient. The majority of the survey respondents believed that lived experience of mental illness enhanced insight into mental illness in general and increased understanding and empathy towards patients.

Conclusion

The findings indicate that mental illness is common among physicians/psychologists working in psychiatric services and possibly associated with both positive aspects such as better understanding of the patients' illness and negative aspects such as auto-stigmatization and fear of disclosure.

Poster nr. 38

CNS stimulants and depression

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Abstract not available.

Poster nr. 39

Bipolar disorder is associated with elevated risk of regretted behaviour on social media and online dating sites

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Background

The omnipresence of social media (SoMe) and online dating sites (ODS) has spurred research investigating how these new possibilities for interaction affect the users' mental health. However, information is lacking when it comes to patients with mental disorders. In this context, those with bipolar disorder (BD) could be particularly vulnerable due to the occasional transgressive behaviour associated with manic episodes, which is subsequently regretted.

Objectives

We aimed to investigate whether patients with BD are at increased risk of behaving in a regrettable manner on SoMe and ODS.

Methods

Individuals aged 18-75 were invited to participate in a survey on the use of SoMe and ODS. Participants were recruited from the outpatient clinic for affective disorders at Aarhus Hospital (AUH-P) and two general practices chosen to roughly match the urban-rural composition of the catchment area of AUH-P. The association between BD and self-reported regretted behaviour on SoMe and ODS was investigated by means of logistic regression with adjustment for age and sex.

Results

A total of 130 patients with BD and 198 individuals without BD and unipolar depression from the general practices (controls) formed the study sample. BD was associated with a significantly increased risk of regretted behaviour on both SoMe (adjusted odds ratio: 3.54, 95% CI: 2.15- 5.82) and ODS (adjusted odds ratio: 4.31, 95% CI: 2.23- 8.33).

Conclusion

Our results suggest that individuals with BD are at elevated risk of behaving in a regrettable manner on SoMe and ODS. Guiding patients with BD on cautious use of SoMe and ODS may be warranted.

Poster nr. 40

Cannabidiol and S-ketamine antidepressant effects are associated with gene expression changes in the prefrontal cortex of the Flinders Sensitive Line rat

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Background

Cannabidiol (CBD) exhibit rapid antidepressant-like effects in rodent models, usually associated with neuroplastic changes in the prefrontal cortex (PFC). However, the molecular mechanisms underlying these effects are not yet known.

Objectives

Thereby, we investigated herein the effects induced by CBD and S-ketamine effects, another fast-acting antidepressant, in stress-induced gene expression in a genetic model of depression, Flinders Sensitive Line (FSL) rats.

Methods

Adult male FSL and their controls (FRL) were treated with CBD (30 mg/kg), S-ketamine (15 mg/kg) or vehicle and submitted to behavioral testing (open field and forced swimming, FST), 1h later. Animals were killed after testing to collect blood (CBD levels, LC-MS) and brain (PFC) samples for gene expression analysis: 48 genes (Fluidigm).

Results

Both CBD and ketamine reversed the depressive-like phenotype of FSL animals. However, no was no correlation between CBD blood levels and immobility time in the FST. FSL-VEH group showed decreased gene expression of plasticity-related genes, compared to FRL-VEH: BDNF, GSK-3β, TrkB, Nr2a and increase expression of GluR2. Interestingly, CBD attenuated the decreased expression of Nr2a in FSL rats ($p<0,05$) and Ketamine increase Vegfa in rats strain ($p<0,05$).

Conclusion

The results confirm impaired expression of genes related to neuroplasticity and synaptogenesis in FLS brain. Surprisingly, CBD and ketamine effects in gene expression were not overlapping, thus suggesting independent, but maybe convergent mechanisms associated to their antidepressant effects. Protein analysis in currently under investigation to further test this hypothesis.

Poster nr. 41

The association between attachment insecurity and post-concussion symptoms in young adults

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Background

The incidence of hospital-treated mild traumatic brain injury is 100-300/100,000 person-years. 5-15% of the patients report long lasting post-concussion symptoms (PCS). The factors involved in the development of PCS are not fully determined. Insecure attachment dimensions have been suggested to be a pre-exiting personality factor influencing the way patients manage long lasting symptoms. attachment style on PCS.

Objectives

1) explore how attachment style is associated with self-report of PCS, and 2) if these associations are mediated by illness perceptions and illness behaviours.

Methods

A cross-sectional study embedded in a cohort study of adolescents and young adults (N=3080) with a recent concussion. Data were obtained from an administrative database and self-report questionnaires. PCS were measured by the Rivermead Post-concussion Questionnaire, attachment dimensions by the Experiences in Close Relationships-Relationship Structure. Illness perception and illness behavior were measured by the Illness Perception Questionnaire and the Behavioural Responses to Illness Questionnaire Brief, respectively. Linear regression models and structural equation models were used for statistical analyses.

Results

N=1190 (39%) responded on the questionnaires. Adjusted analysis showed aassociation between attachment anxiety and PCS (β= 1.0 (95%CI 0.5 ; 1.5), p< 0.001) and between attachment avoidance and PCS (β= -1.7 (95%CI -2.6 ; -0.8), p< 0.001). Negative illness perceptions and maladaptive illness behaviours mediated parts of the effect of attachment style on PCS.

Conclusion

Insecure attachment dimensions could be a pre-disposing factor indicating how patients with PCS report their symptoms.

Poster nr. 42

KAPPA OPIOID SYSTEM MODULATES COGNITIVE PROCESSES AND DEPRESSION THROUGH HPA AXIS

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Background

Negative cognitive affective bias (CAB) is one of the first symptom that observed in depression. Endogenous opioid peptides can modulate cognitive processing. Moreover, hypothalamic–pituitary–adrenal(HPA) axis plays an important role in modulating mood, anxiety and depression.

Objectives

In this study we showed that opioid system involves in cognitive processes, therefore we would like to investigate the mechanism of opioid system on CAB and depression.

Methods

The affective bias test (ABT) was used to measure the CAB of corticosterone (CORT), as a well-known inducer of depressive behaviors, and U50488, as the kappa opioid receptor (KOR) agonist in female Sprague Dawley rats. After habituation and training sessions, the animal learned to distinguish different substrates, contained reward or not, during 4 pairing days. The reward was hidden with different substrates which were paired to the day that the animals were treated with drug or vehicle. In the preference test, contained 30 trials, the animal had to choose one of the substrates. The number of choices was recorded to calculate the CAB. Moreover, in another experiment, animals received DIPPA, as KOR antagonist, after the negative biases were induced by CORT. In the following day, the preference test was repeated and the CAB to CORT-paired substrate was measured again. We also collected blood and different regions of brains after 30 minutes of CORT/vehicle or U50488/vehicle single dose treatment to measure the biomarkers.

Results

Both U50488 (5mg/kg) and CORT (10mg/kg) showed significantly negative biases, while DIPPA (5mg/kg) neutralized CORT-induced negative biases. The level of dynorphin (DYN) in plasma was not significantly different between CORT-treated animals and control group. However, the level of CORT in serum increased significantly in U50488-treated group vs. control ($p<0.01$). Western blot analyzing showed that phosphorylated p38 mitogen-activated protein kinase(MAPK) increased significantly in frontal cortex but not in hippocampus in U50488 treated animals versus vehicle treated group.

Conclusion

We conclude that KOR has an impact on HPA axis related to depression and cognitive processing. The data supports that the opioid system, especially KORs, can be considered as a target to control mood and depression by modulating cognitive functions.

Poster nr. 43

Polygenic risk and conversion from depression to bipolar disorder

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Background

Early identification and treatment of individuals with bipolar disorder (BD) has the potential to improve treatment efficacy as well as long-term prognosis and outcome. Most individuals with BD experience a depressive episode prior to their first hypomanic, manic or mixed episode, and many of these patients are therefore first diagnosed with- and treated for (unipolar) depression. Knowing which individuals with depression who are at increased risk for converting to BD could prove an effective strategy for early identification and intervention, which is likely to improve prognosis.

Objectives

In this study, we examined whether polygenic liabilities for three mental disorders (BD, depression and schizophrenia (SZ)) are associated with conversion from depression to BD.

Methods

Participants included 15,424 unrelated individuals (69% female, 10-35 years old) from the iPSYCH2012 sample who were diagnosed with unipolar depression (ICD-10 codes F32-F33) in Danish psychiatric hospitals between 1991 and 2016. Patients were followed from their first in- or outpatient depression diagnosis until their first BD diagnosis, death, emigration, or Dec 31 2016, whichever came first. Cumulative incidence of BD was calculated using Kaplan Meier curves with death as a competing event. Hazard ratios were calculated using Cox regressions with death as a competing event. All regression models were adjusted for the first 5 ancestral principal components (PCs) and stratified by birth year. Polygenic risk scores (PRS) for depression, BD and SZ were calculated using the most recent summary statistics from the PGC and 23andMe and operationalized as standardized continuous variables (M=0, SD=1), and quartiles.

Results

Results suggest that higher PRS for BD is significantly associated with increased hazard of converting from depression to BD. For each 1 SD increase in PRS-BD, hazard of converting to BD increased by 19% (HR=1.19, 95% CI: 1.09-1.29; $p < .0001$). Compared to the bottom quartile of PRS-BD, depression patients in the top quartile were 65% more likely to convert to BD (HR=1.65, 95% CI: 1.31-2.07; $p < .0001$). Compared to the overall cumulative incidence of BD (6.6%, 95% CI: 5.7-7.6%), the cumulative incidence among individuals in the top quartile of PRS-BD was 8.9% (95% CI: 6.7-11.4%; Gray's test for equality: $\chi2=21.8$, $p > .0001$). Polygenic risk scores for depression (1.03, 95% CI: 0.95-1.12: $p = .42$) and SZ (1.08, 95% CI: 0.99-1.17; $p=.08$) were not significantly associated with conversion to BD.

Conclusion

Polygenic risk scores for BD may prove useful for early identification of individuals diagnosed with depression who are at increased risk for BD. However, more research is needed to evaluate the predictive capacity of these scores in a clinical setting, both on their own and in combination with other known risk factors for conversion. The fact that the PRS for depression and SZ were not associated with conversion to BD suggests that the effect of genes on conversion risk is disorder specific.