Bipolar disorders

O004

Lithium-associated hypothyroidism: Reversible after lithium discontinuation?

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Introduction: The association between lithium and thyroid dysfunction has long been known. Yet it is not known whether lithium-associated hypothyroidism is reversible, once lithium treatment has been stopped.
Objectives: To determine whether lithium-associated hypothyroidism was reversible in patients who subsequently discontinued lithium.
Methods: Retrospective cohort study in the Swedish region of Norrbotten into the effects and side- effects of lithium treatment and other drugs for relapse prevention (LiSIE). For this particular study, we reviewed medical records between 1997 and 2015 of patients treated with lithium.
Results: Of 1340 patients screened, we identified 90 patients with lithium-associated hypothyroidism who subsequently discontinued lithium. Of these, 27% had overt hypothyroidism at the time when thyroid replacement therapy was initiated. The mean delay from lithium start to thyroid replacement therapy start was 2.3 (SD 4.7) years. Fifty percent received thyroid replacement therapy within 10 months of starting lithium. Of 85 patients available for follow up, 35 (41%) stopped thyroid replacement therapy after lithium discontinuation. Six patients reinstated thyroid replacement therapy subsequently. Only one of these had overt hypothyroidism, occurring 13 days after stopping lithium and 11 days after stopping thyroid replacement therapy.
Conclusions: Lithium-associated hypothyroidism seems reversible in most patients, once lithium has been discontinued. In such cases, thyroid replacement therapy discontinuation could be attempted much more often than currently done. Based on the limited evidence of our study, we can expect hypothyroidism to recur early after discontinuation of thyroid replacement therapy if at all.

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Keywords: lithium; adverse effects; bipolar disorder; hypothyroidism

O005

The WHO-5 well-being scale and its correlation to depressive and manic symptoms among outpatients with bipolar disorder or unipolar depression

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Introduction: There is a lack of longitudinal studies of patients with bipolar disorder (BD) or unipolar depression (UD) in terms of psychological well-being as measured by the WHO-5 and the correlation to symptom scores. It is of interest to investigate whether the WHO-5 is useful in monitoring patients with mood disorders over time, as a tool in measurement-based care, and as a supplement to other psychometric measures.
Objectives: In this study we investigate the correlation at baseline between the depressive symptom scores according to the 6-item Hamilton Depression Score (HDS-6) and the WHO-5 scores in outpatients treated for BD or UD. Furthermore, in patients with BD we investigate correlations between manic symptom scores according to the modified Bech-Rafaelsen Mania Scale (MAS-M) and the WHO-5 scores. Lastly, in patients with BD or UD, we investigate the correlations between endpoint-baseline change in WHO-5 and change in MAS-M and HDS-6.
Methods: A longitudinal study of 200 outpatients diagnosed and treated for either BD or UD. Patients will be measured at baseline and at least four weeks later. Baseline data are presented as frequencies, means and standard deviations or medians with interquartile ranges as appropriate. All correlations are presented as scatter plots and a Spearman correlation analysis
Results: The study is ongoing, but the results will be available for presentation at the EPA in 2021.
Conclusions: The WHO-5 may represent a relevant outcome measure in the treatment of BD and UD.

Disclosure: No significant relationships.
Keywords: bipolar disorder; who-5; quality of life; unipolar depression

O006

Higher illness burden is associated with reduced heart rate variability in bipolar disorder

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Introduction: Bipolar disorder (BD) is associated with premature death and ischemic heart disease is the main cause of excess mortality. The predictive power of heart rate variability (HRV) for mortality has been confirmed in patients with or without cardiovascular disease. While several studies have analyzed the association between HRV and BD, their results are incongruent; and none has analyzed the effect of the clinical factors characterizing illness burden on HRV.
Objectives: To assess the association between HRV and the following factors characterizing illness burden: illness duration, number and type of previous episode(s), duration of the most severe depressive or hypomanic/manic episode, severity of episodes, co-morbid psychiatric disorders, family history of BD or suicide, and duration and polarity of current episode in participants experiencing one.
Methods: We used a wearable device in 53 BD participants to assess the association between HRV using 4 measures (RMSSD, SDANN, SDNN and RR Triangular Index) and the abovementioned clinical factors characterizing illness burden. For each of the 4 HRV measures we ran 11 models, one for each burden of illness clinical factor as an independent variable.
Results: Longer illness duration, higher number of depressive episodes, and family history of suicide were negatively correlated with HRV; in the 14 participants experiencing a depressive episode, the MADRS score was negatively correlated with HRV
Conclusions: Our study analyzed the association between burden of illness and HRV in BD, while controlling for functional cardiovascular status, age, sex, BMI, education, and treatment. Our results showed that high illness burden is associated with reduced HRV.

Disclosure: No significant relationships.
Keywords: bipolar; heart rate variability; illness burden

O007

Bipolar disorder hospitalizations – a big data approach

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Introduction: Bipolar Disorder (BD) is a mental disorder characterized by long hospitalizations and frequent need for acute psychiatric care. Hospitalizations represent a valuable quality of care indicator in BD.
Objectives: The aim of this study was to describe a nationwide perspective of BD related hospitalizations and to use a BigData based approach in mental health research.
Methods: We performed a retrospective observational study using a nationwide hospitalization database containing all hospitalizations registered in Portuguese public hospitals from 2008 to 2015. Hospitalizations with a primary diagnosis of BD were selected based on International Classification of Diseases version 9, Clinical Modification (ICD-9-CM) codes of diagnosis 296.xx (excluding 296.2x; 296.3x and 296.9x).
Results: A total of 20,807 hospitalizations were registered belonging to 13,300 patients. 33.4% of the hospitalizations occurred in male patients and the median LoS was 16.0 days. Mean age was 47.9 years and male patients were younger(46.6 vs. 48.6; p< 0.001). 59 hospitalizations had a deadly outcome (0.3%). The most common cause of hospitalization in BD was the diagnosis code 296.4x (Bipolar I disorder, most recent episode (or current) manic) representing 34.3% of all hospitalizations, followed by the code 296.5x (Bipolar I disorder, most recent episode (or current) depressed) with 21.4%. The mean hospitalization charges were 3,508.5€ per episode, with a total charge of 73M€ in the 8-year period of this study.
Conclusions: This is a nationwide study using BigData analysis giving a broad perspective of BD hospitalization panorama at a nationwide level. We found differences in hospitalization characteristics by gender, age and primary diagnosis.

Disclosure: No significant relationships.
Keywords: Hospitalization; Big Data; bipolar disorder; Administrative Database

O008

Game changer in the diagnosis of bipolar disorder using RNA editing-based blood biomarkers

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Introduction: In clinical practice, differentiating Bipolar Disorder (BD) from unipolar depression is challenging due to the depressive symptoms, which are the core presentations of both disorders. Patients with BD are often misdiagnosed during depressive episodes resulting in a delay in proper treatment and a poor management of their condition.
Objectives: The aim of the present study is to discriminate between unipolar depression and BD using a panel of RNA edited blood biomarkers.
Methods: Depressed patients were classified according to clinical scores in MADRS and IDSC-30 depression scales. After blood collection and RNA extraction, we used whole-transcriptome sequencing to identify differential A-to-I editing events, and Targeted Next Generation Sequencing to validate those biomarkers.
Results: We discovered 646 variants differentially edited between depressed patients and control in a discovery cohort of 57 participants. After using stringent criteria and biological pathway analysis, 6 biomarker candidates were singled out and tested in a validation cohort of 160 patients suffering from unipolar depression and 95 BD patients in a depressive episode, which allowed a differential diagnosis of BD with an AUC of 0.935 and high specificity (Sp=84.6%) and sensitivity (Se=90.9%).
Conclusions: We have shown that a combination of 6 blood RNA editing-related biomarkers allows to discriminate unipolar and bipolar depression This 6 BMKs panel may be crucial to improve BD diagnosis and orientate the treatment therefore addressing the needs of millions of patients suffering from misdiagnosis and