manitoba neuroscience network

Anxiety as a physiologically measurable comorbidity in Depression

NEUROSCIENCE GRAND ROUNDS

DATE
Friday, March 24th, 2023
9:00AM

ZOOM LINK AND PASS WORD
https://umanitoba.zoom.us/j/64093937813?pwd=cDFHRUlUT1VVRkpXU2VSQTljSHBXQT09
Meeting ID: 640 9393 7813 Passcode: 691778

SPEAKER

DR. BRIAN LITHGOW

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BIO

Brian has been involved in Medical Research for more than 40 years, mostly within academia (26 at Monash University, Australia). The research foci being Neurological and Neurodegenerative Disorder diagnosis and therapy. Brian is the inventor of the EVestG technology, a technology requiring expertise in vestibular and auditory electro-neurophysiology and signal processing. Brian's current EVestG research, conducted both in Canada and Australia, includes Parkinson's Disease Drug therapy, mTBI and PCS detection and therapy, Dementia type separation (including rTMS efficacy prediction), Vertiginous Diseases, Separation of Bipolar disorder and Major Depressive disorder (3 patents). Additionally, there are animal studies to model the spontaneously generated vestibular field potential. Newer areas of interest include quantitative measures of Anxiety and visio-vestibular interactions. He has authored more than 170 refereed publications, 6 books, 2 book chapters and 4 world patents. He was the New Inventors, Australian Inventor of the year in 2010.

RESEARCH

Anxiety is present in about half of all Major Depressive Disorder (MDD; Fava, 2000) and Bipolar Disorder (BD; Spoorthy, 2019) patients. Anxiety is known to affect the vestibular system (Review: Balaban, 2011). Herein, we use Electrovestibulography (EVestG), which is predominantly a measure of vestibular response (Blakley, 2022), to:

A. quantitatively detect comorbid anxiety in BD, and
B. quantitatively measure the impacts of anti-depressant (AD), anti-psychotic (AP) and mood stabilizer (MS) medication groups on that anxiety.

Using Electrovestibulography measures we show:

1. One manifestation of Anxiety is as an ~8Hz component measured in the recorded EVestG firing pattern which is:

2. Reduced by Mood Stabilizers and Anti-psychotics and

3. By modelling the effects of MS, AP and AD medication provide an indicator of the efficacy of these medication groups in BD.

By quantifying the anxiety comorbidity depressive and anxious symptomatologies and biomarkers might be better separately targetted for treatment and measure of treatment efficacy.

OBJECTIVES

1. To quantitatively measure anxiety.

2. To quantitatively measure the comorbidity Anxiety in a Depression population.

3. To quantitatively measure the impact of Mood Stabilizers, Anti-Depressants and Anti-Psychotics as a medication group on Anxiety

For more information:

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https://bme.eng.umanitoba.ca/EVestGlab/index.html

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