

Profiling of patients with major psychiatric disorders using electroretinography



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The scientific basis underlying the diagnosis of schizophrenia, bipolar disorder and major depression is unclear. This generates uncertainties about the classification of patients in clinical research settings and for efficacious treatment. We propose a novel approach, based on the use of electroretinography, which measures the response of the retina to light stimulation. The retina, as part of the central nervous system, constitutes a powerful site of investigation for understanding brain disorders such as schizophrenia.

Previous work by Maziade and Hébert supports this approach and the changes in electroretinography observed in patients reflect a disturbance in the chemistry of the brain. Using this approach, we propose to develop an array of biomarkers that will tag the different sub-groups of patients within these diseases, both at the stage of the disease and in the years preceding its onset.

The goal of this project is also to develop a new pharmacodiagnostic tool that can be used to accurately profile patients with major psychiatric disorders with regard to etiology and prediction of treatment response.

We believe this technology will become a valuable tool in biopharmaceutical research, personalized medicine in neuroscience and in the clinical practice to maximize benefits of medication both in clinical studies and in the treatment setting.