OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Biomarkers & Clinical Research
July 15-17, 2013 Courtyard by Marriott Philadelphia Downtown, USA

Genetic markers predicting treatment resistant depression

Marc K. Samet
Neurotherics, LLC, USA

Psychiatric genetics has been unable to replicate studies which link genotype with treatment outcome. In large measure the difficulty in producing reliable markers has been a consequence of the heterogeneity of depression. Almost all depression trials or genetic studies use "response" as the surrogate outcome measure. By definition, response is defined as a 50% reduction on analytical metric when comparing entry and exit from the trial. This implies that subjects remain symptomatic for their presenting symptoms.

We have analyzed The Sequenced Treatment Alternatives for Relieving Depression (STAR*D) NIMH multicenter clinical. An endophenotype was defined by baseline depression severity and minimal co-morbidity. The outcome metric we utilized compared non-responders with true remitters. No subjects defined as responders were included in our genotypic analysis. Polymorphic markers were chosen before genotypic analysis. We identified 255 subjects of European/Caucasian ancestry who met our inclusion criteria with 66% non-responders and 33% true remitters. To our knowledge this is the first genetic analysis of depression subjects where the relevant surrogate clinical outcome of symptom relief was used. Our analysis identified 27 SNPs in 12 genes within muscarinic, nicotinic, adrenergic, serotonergic, dopaminergic, reward and signal transduction pathways. A haplotype analysis indicates that certain alleles can predict true remission. Our findings demonstrate using an endophenotypic analysis can identify biomarkers predicting relevant clinical outcomes in depression. Further work is underway to validate the original findings in additional data sets and novel depressed patients.

Biography

Marc K. Samet received undergraduate and graduate training at Northwestern University and Northwestern University School of Medicine in neuroscience. He received a Ph.D. in Pharmacology from the University of Kansas. After receiving his graduate training he was awarded NIH and NIMH funding and joined the research faculty of the University of California at Berkeley and the University of California at San Francisco with dual appointments in the Departments of Medicine and Pharmacy. He has participated in private equity transactions exceeding $300 Million and been involved in the formation of 4 biotechnology firms. He is the Chief Medical Officer of Neurotherics, LLC which is a privately held research company directed towards improving mood therapies.

marc@neurotherics.com