CS03-02 - THE ROLE OF (EPI)GENETICS IN PERSONALIZING PSYCHIATRY

R.Uher[1,2]

[1]Department of Psychiatry, Dalhousie University, Halifax, NS, Canada, [2]MRC Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College London, London, UK

Introduction: A number of treatment options are available for common mental disorders, but the outcomes are inconsistent. Predictors of efficacy are needed to personalize treatment selection and improve outcomes.
Objectives: I assess the clinical significance of genomic and clinical predictors and their relevance for personalizing treatment in psychiatry. I primarily focus on the pharmacotherapy of depression, for which there is most information available.
Aims: To provide a benchmark for assessing clinical significance of genomic biomarkers, including genetics and epigenetic data.
Methods: Review of published literature on genomic predictors of treatment outcomes and simulation of datasets modeled on large pragmatic trials. The National Institute for Clinical Excellence, UK, consensus criterion for clinical significance of three point difference between active treatment and control on the Hamilton Rating Scale for Depression is translated to studies of genetic and epigenetic biomarkers.
Results: To achieve a clinically significant improvement in outcomes, a biomarker has to fulfill two conditions: (1) differentially predict outcomes of alternative treatment options and (2) explain at least 6.3% of variance in outcomes in a representative sample of treatment-seeking individuals, independent of samples from which the prediction was derived. No genetic or epigenetic predictor in published psychiatric literature approaches this standard.
Conclusions: It is unlikely that any single common genetic polymorphism could meaningfully personalize treatment for depression, schizophrenia or bipolar disorder. To date, there is insufficient information on epigenetic biomarkers and on other disorders. Combination of multiple genomic and clinical predictors may achieve clinical significance.

https://doi.org/10.1016/S0924-9338(12)74065-8 Published online by Cambridge University Press