

Preface

A 26-year-old female sees a psychiatrist because she has developed strange ideas and convictions. She believes that the world will end soon and she is the female embodiment of the messiah who can save everyone. She also believes that she receives advice from the president of the USA through the television on how to go about this task. The psychiatrist diagnoses her with schizophrenia and, as appropriate, treats her with an antipsychotic drug called quetiapine. After several weeks, the delusions and hallucinations disappear. However, there is now another problem. She slows down, talks less and believes that there is no hope and no future. She sees the psychiatrist again and he diagnoses her with negative symptoms of schizophrenia and possible depression. As a result, he treats her with an antidepressant called fluoxetine on top of the antipsychotic medication. After 1 week, the patient becomes agitated and her messianic beliefs begin to re-emerge. Also, there is now something new—she becomes sexually uninhibited and begins picking up men in bars. The psychiatrist changes the diagnosis to mania, which is basically the upwards part of the cycle of manic depression disorder. Consequently, he stops the antidepressant treatment and gives her a mood stabilizer known as valproate. After 3 weeks there is an almost complete recovery.

There are millions of cases around the world each year such as this one. The difficulties associated with psychiatric diagnosis stem from the fact that it is still based on fuzzy concepts. This fuzziness is not only due to a broad overlap of symptoms across the various psychiatric disorders, it is likely that the underlying biological causes of these conditions overlap as well. For example, the disorder that we know as schizophrenia is likely to consist of at least five separate diseases, each of which may require a different treatment. Given the complexities and difficulties surrounding current diagnoses, the question arises—how can the process be improved?

The answer: biomarkers.

I have written this book on the emerging use of biomarkers in the study of psychiatric diseases for a broad range of people including researchers, clinicians, psychiatrists, university students and even those whose lives are affected in some way by a psychiatric illness. The latter category is not trivial since a staggering one in

three people worldwide show the criteria for at least one psychiatric disorder at some point in their lifetime. The book lays out, in accessible language, the history of psychiatric research, the current state of the art in psychiatric practice, the systems affected in psychiatric illnesses, the whole body nature of psychiatric illnesses and the impact that this is having on emerging biomarker discoveries. It also gives descriptions of the major specific psychiatric disorders and the special challenges that surround the diagnosis and treatment of each one of these. The main concept behind this book that the reader should look for is that the brain does not work alone. Mood and behaviour actually result from integration of signals between the mind and the body, and many of these signals are borne by the bloodstream. This is important as this factor makes it possible to develop simple blood tests for diagnoses of these complex disorders. The final chapter drives home the way in which we can change the paradigm of how we treat patients with psychiatric disorders by incorporating biomarkers into clinical practice and even into the drug development pipeline. The ultimate goal is to incorporate personalized medicine approaches into these processes to help move psychiatric medicine into the twenty-first century.

I sincerely hope that the reader will find the contents of this book interesting on a subject that really matters and affects us all in some way.

Debden, Essex, UK

Paul C. Guest

Biomarkers and Mental Illness

It's Not All in the Mind

Guest, P.C.

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