Reviewer’s report

Title: Monitoring candidate gene expression variations before, during and after a first Major Depressive Episode in a 51-year-old man

Version: 1 Date: 9 February 2014

Reviewer: Andreas Menke

Reviewer’s report:

The authors present a case report on a formerly healthy subject who was monitored over 67 weeks for gene expression of several candidate genes and developed a depressive episode within the observation period. The authors found for example an upregulation of SLC6A4/5HTT preceding the onset of symptoms and a downregulation after successful treatment with an antidepressant.

The case report presents interesting findings, however, there are some drawbacks.

Major compulsory revisions:
- The authors want to describe new biomarkers for personalized medicine. However, it is doubtful if a single case can provide enough data for biomarker retrieval. At least the authors should have a replication.
- Several transcripts were analyzed, but I found no adjustment for multiple testing. After this correction, is there any significant regulation left?
- What was the antidepressant and the dosage?
- Why did the authors not analyze FKBP5, since FKBP5 mRNA expression was associated with major depression, HPA-axis dysregulation and treatment response.
- It was not clear to me why this subject was enrolled and in which study, this should be clarified.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.