Reviewer's report

Title: Decreased plasma neuroactive amino acids and increased nitric oxide levels: a possible trait-marker for melancholic major depressive disorder

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Reviewer: Jiang-Ning Zhou

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Minor Essential Revisions

This study (‘Decreased plasma neuroactive amino acids and increased nitric oxide levels: a possible trait-marker for melancholic major depressive disorder’) aimed to reveal how plasma neuroactive amino acids and nitric oxide levels are changed in a special subtype of major depressive disorder (MDD) i.e. melancholic MDD, and whether/how such alterations are affected by antidepressant treatment. The authors present interesting data, i.e. they found decreased plasma levels of Asp, Gly and GABA and increased NO levels which remained before and after treatment. In addition, the authors investigated in another 10 non-depressive patients whether the plasma amino acids levels showed any correlation to the CSF levels and they did not find it, which fits what was observed before. This study offers new clinical data on these compound changes in a well defined subtype of major depression. However, some problems need to be clarified.

1. It is too early to draw the conclusion that changes of amino acids and nitric oxide in plasma as a trait-marker for melancholic major depression before other type of major depression are investigated. The title of the manuscript may better be changed to a more neutral one.

2. Since the plasma levels of Asp, Ggly and ABA may be influenced by many factors, were there any potential confounding variables (diet, lifestyle etc) that might be contributing to the observed group differences?

3. Limitations of the works should be further stated as the study was based on the limited sample size. The authors has already indicated the limitations in specificity and selectivity.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:
I have no competing interests to this paper.