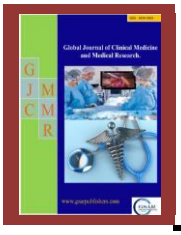

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Commentary: Suggestions on antidepressant related research

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Abstract

The insula is a cortical structure located in the brain. The insula seems to be involved in various cognitive functions such as sensory perception, metacognition and self-awareness among others. Evidence suggest that the insula also plays a role in depression. In this commentary article possible limitations are discussed concerning research done by Geugies and collaborators (2019) related to the insula in conjunction with antidepressant therapy. Opposite findings are presented, that were reported in an article written by Lui and collaborators (2011) and suggestions are made for the replication of the Geugies and collaborators (2019) study in more specific controlled trials.

Keywords: *depression, insula, treatmentresistance, fMRI, antidepressants*

INTRODUCTION

In a 2019 paper Geugies and collaborators[1] explored whether baseline alterations withinand between resting state functional connectivity networks could serve as markers of insufficient response to antidepressant treatment in two years of follow-up. They investigated whether right insula activation differed during switching between task positive mode and task-negative mode. As participants they used two groups of Major Depression Disorder patients and a healthy control group. One group of MDD patients was receiving two or more antidepressants, indicative for insufficient response, duringthe two-year follow-up and the other group of MDD patients had received only one antidepressant. They found that in the ≥2 antidepressant group, the right insula was less active compared to the group with one antidepressant, when switching from task-positive to task-negative mode than the otherway around. Also, the right insula showed lower connectivity with the salience network in the ≥2 antidepressant group compared to the one antidepressant group. Their findings suggest that right insula connectivity within the salience network can potentially indicate insufficient response to antidepressants. One interpretation of this result is that an underlying mechanism of depression exists that, if not targeted by antidepressants, couldlead to insufficient response.

However, in 2011 Lui and collaborators [2] reported opposite findings: increased functional connectivity between the right insula and salience network in treatment resistant patients relative to non-treatmentresistant patients. To shed light upon this controversy we need to first examine the limitations of Geugies and collaborators (2019) study one by one. Firstly, the sample size of patients that needed more than two antidepressants is modest, that is why smallergroup differences may not have been detected. Secondly, only information on medication duration and daily dose was specified. Information about when in a certain episode the medication was used exactly, was not available. Next, there is a possibility that patients switched to another antidepressant because the initial antidepressant interacted with other medication. Furthermore, it was hard to knowwhether and when a certain antidepressant was successful in reducing symptoms because illness severity data was collected at three visits only. In addition, the study included patients that were treated with two antidepressant classes (SNRI, SSRI). Thisfact gives the study a more general character rather than a more specific one where biomarkers for specific antidepressants would befound. Lastly, some of the patients had no psychotherapy at baseline but received psychotherapy during follow-up.

To summarize, I believe that Geugies and collaborators (2019) research is important forthe formulation of specific hypotheses in future studies, contributes to long term effects of non-response and provides important clinical information to help improve chances of response. However, I suggest the replication of this study by considering the elimination of all the limitations mentioned in the previous paragraph. I

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recommend that the bio marker of insufficient response to antidepressants would be replicated in more specific controlled trials. This kind of a replication is important in order for this work to be translated to specific antidepressants and therefore to clinical practice.

References

1. Geugies, H., Opmeer, E. M., Marsman, J. B. C., Figueroa, C. A., van Tol, M. J., Schmaal, L., van der Wee, N. J. A.,Aleman, A., Penninx, B. W. J. H., Veltman, D. J., Schoevers, R. A., & Ruhé, H. G. (2019). Decreased functional connectivity of the insula within the salience network as an indicator for prospective insufficient response to antidepressants. NeuroImage: Clinical, 24, 102064. https://doi.org/10.1016/j.nicl.2019.102064
2. Lui, S., Wu, Q., Qiu, L., Yang, X., Kuang, W., Chan, R. C. K., Huang, X., Kemp, G. J., Mechelli, A., & Gong, Q. (2011). Resting-State Functional Connectivity in Treatment-Resistant Depression.American Journal of Psychiatry, 168(6), 642–648. https://doi.org/10.1176/appi.ajp.2010.10101419

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