

Changes in resting-state functional connectivity after intensive somatic group psychotherapy- preliminary report.

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Background

Mechanisms through which psychotherapy enhances functioning remain difficult to specify. Resting-state functional magnetic resonance imaging provides a noninvasive method to map functional communication in the brain network and gives possibility to find the associations between response to psychotherapy and baseline activity in several key regions.

Objectives

The aim of the present study was to investigate changes in resting-state functional connectivity in a sample of patients with diagnosis of anxiety disorders after 5 days intensive somatic group psychotherapy.

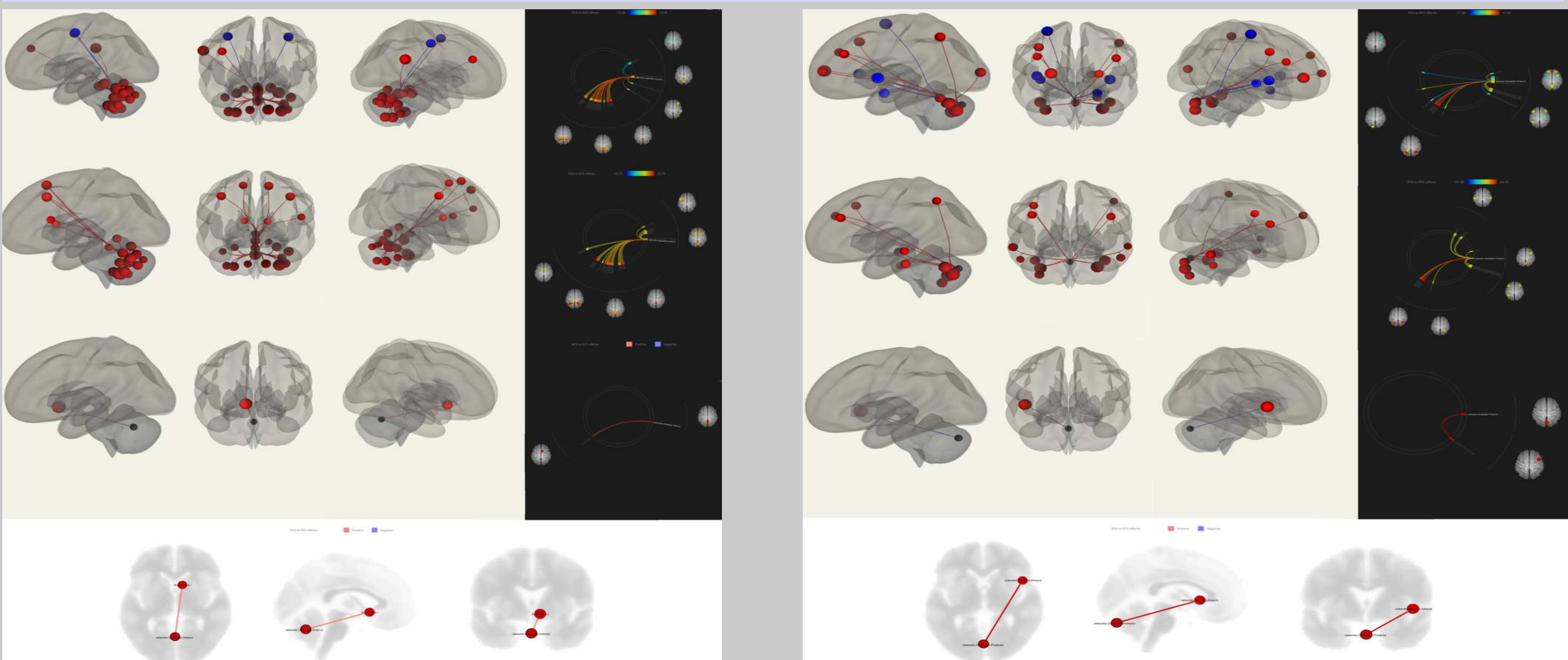
Subject and methods

Resting-state fMRI data was obtained from 7 volunteers two times: one week before and one week after psychotherapy. MR scans were performed using Philips Ingenia 3T scanner and 32-channel ds-head with closed eyes using EPI-BOLD sequences at 2.5mm isotropic resolution at an acquisition time of 15 minutes. The structural data were collected in an isotropic resolution of 0.75 mm in the T13D TFE sequence. The CONN software (web.conn-toolbox.org) was used to process the obtained functional data along with structural data. We used the functional connectivity method based on regions of interest (ROI-ROI).



Results

We found increased connectivity in a sub-network of connections encompassing the anterior cerebellar network with right nucleus accumbens and posterior cerebellar network with right anterior insula ($p\text{-FDR} < 0.01$). The above changes were found in all subjects but due to the current size of the group are preliminary and require further confirmation.



Conclusion

The changes in sub-network comprise areas mainly involved in interoceptive information and in emotional processes induced by intensive somatic group psychotherapy demonstrate that this method of psychotherapy takes effect through a “bottom-up” mechanism.