Association of antidepressants with brain morphology in early stages of psychosis: an imaging genomics approach

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4527362
Author(s) Bykowsky, Oleg; Harrisberger, Fabienne; Schmidt, André; Smieskova, Renata; Hauke, Daniel J.; Egloff, Laura; Riecher-Rössler, Anita; Fusar-Poli, Paolo; Huber, Christian G.; Lang, Undine E.; Andreou, Christina; Borgwardt, Stefan
Author(s) at UniBasel Hauke, Daniel Jonas ; Schmidt, André ; Andreou, Christina ;
Year 2019
Title Association of antidepressants with brain morphology in early stages of psychosis: an imaging genomics approach
Journal Scientific Reports
Volume 9
Number 1
Pages / **Article-Number** 8516
Mesh terms Adult; Antidepressive Agents, therapeutic use; Brain, pathology; Cerebral Cortex, pathology; Female; Genomics; Humans; Linear Models; Male; Psychotic Disorders, genetics; Schizophrenia, drug therapy
Depressive symptoms in subjects at Clinical High Risk for Psychosis (CHR-P) or at first-episode psychosis (FEP) are often treated with antidepressants. Our cross-sectional study investigated whether brain morphology is altered by antidepressant medication. High-resolution T; 1; -weighted structural MRI scans of 33 CHR-P and FEP subjects treated with antidepressants, 102 CHR-P and FEP individuals without antidepressant treatment and 55 controls, were automatically segmented using Freesurfer 6.0. Linear mixed-effects modelling was applied to assess the differences in subcortical volume, surface area and cortical thickness in treated, non-treated and healthy subjects, taking into account converted dosages of antidepressants. Increasing antidepressant dose was associated with larger volume of the pallidum and the putamen, and larger surface of the left inferior temporal gyrus. In a pilot subsample of separately studied subjects of known genomic risk loci, we found that in the right postcentral gyrus, the left paracentral lobule and the precentral gyrus antidepressant dose-associated surface increase depended on polygenic schizophrenia-related-risk score. As the reported regions are linked to the symptoms of psychosis, our findings reflect the possible beneficial effects of antidepressant treatment on an emerging psychosis.
Publisher Nature Publishing Group
ISSN/ISBN 2045-2322
URL http://www.ncbi.nlm.nih.gov/pmc/articles/pmc6560086/
edoc-URL https://edoc.unibas.ch/75212/
Full Text on edoc No;
Digital Object Identifier DOI 10.1038/s41598-019-44903-y
PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/31186482
Document type (ISI) Journal Article