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Sommario/riassunto

Psychiatric imaging needs to move away from simple investigations of the neurobiology underling the early phases of psychiatric diseases to translate imaging findings in the clinical field targeting clinical outcomes including transition, remission and response to preventative interventions. This research topic aims to bring psychiatric neuroimaging studies towards translational impacts in clinical practice, suggesting that brain abnormalities may be of potential use for detecting clinical outcomes as treatment response. First-generation psychiatric neuroimaging focused on simple structural brain alterations associated with the neurobiology of the illness. These early studies adopted imaging methods mainly including computerized tomography (CT) to investigate brain size. Second-generation psychiatric neuroimaging studies benefited from more sophisticated techniques which included structural methods (sMRI) coupled with whole-brain automated methods (voxel based morphometry, VBM), white-matter methods (diffusion tensor imaging, DTI and tractography), functional methods (functional magnetic resonance imaging, fMRI) and advanced neurochemical imaging (PET techniques addressing receptor bindings and pre/post synaptic functions, magnetic resonance spectroscopy, MRS) and sophisticated meta-analytical imaging methods. However, no consistent or reliable anatomical or functional brain alterations have been univocally associated with any psychiatric disorder and no clinical applications have been developed in psychiatric neuroimaging. There is

thus urgent need of psychiatric imaging to move towards third-generation paradigms. In this research topic, these novel neuroimaging studies here requested to move away from simple investigations of the neurobiology to translate imaging findings in the clinical field targeting longitudinal outcomes including transition, remission and response to preventative interventions. With respect to methods, the most recent neuroimaging approaches (e.g. structural and functional MRI, EEG, DTI, spectroscopy, PET) are welcome. Third generation psychiatric imaging studies including multimodal approaches, multi-center analyses, mega-analyses, effective connectivity, dynamic causal modelling, support vector machines, structural equation modelling, or graph theory analysis are highly appreciated. Furthermore, these third-generation imaging studies may benefit from the incorporation of new sources of neurobiological information such as whole genome sequencing, proteomic, lipidomic and expression profiles and cellular models derived from recent induced pluripotent stem cells research. We collect Original Research, Reviews, Mini-Reviews, Book Review, Clinical Case Study, Clinical Trial, Editorial, General Commentary, Hypothesis & Theory, Methods, Mini Opinion, Perspective, and Technology Report from international researcher and clinicians in this field. The purpose of this research topic is intended to provide the field with current third-generation neuroimaging approaches in translational psychiatry that is hoped to improve and create therapeutic options for psychiatric diseases.