

Abstract

Cite this article: (2021). Joint Symposium. *European Psychiatry* 64(S1), S6–S7.

ECNP Symposium hosted by the EPA: The neuroimaging of pharmacological effects

ECNP0001

Pet imaging of receptor occupancy

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doi: 10.1192/j.eurpsy.2021.39

The discovery and development of drugs for treatment of brain disorders is an extremely challenging process requiring large resources, timelines, and associated costs. Positron Emission Tomography (PET) enables in vivo neuroimaging of various components of receptors, transporters, enzymatic activity and other types of proteins. PET also allows for studying the response to physiological or drug interventions in experimental medicine studies. Moreover, PET neuroimaging can assist to establish diagnoses in certain brain disorders and thereby improve patient selection and stratification for clinical trials. Over the past couple of decades, PET neuroimaging has thus become a central component of the evaluation of novel drugs for brain disorders, enabling decision-making in phase I studies, where early discharge of risk provides increased confidence to progress a candidate to a later phase testing at the right dose level or alternatively to kill a compound through failure to meet key criteria. The so called "3 pillars" of drug survival, namely; tissue exposure, target engagement, and pharmacologic activity, are particularly well suited for evaluation by PET imaging. Molecular neuroimaging has thus increasingly established itself as a unique tool that not only can demonstrate drug penetration and kinetics in the brain, but also identify pharmacodynamic effects, e.g., changes in glucose metabolism. It can also quantitate therapeutic action in vivo by determining, e.g., drug occupancy whereby the relevant dose ranges to be used in clinical efficacy trials can be determined.

Disclosure: No significant relationships.

ECNP0003

EEG and ECG based response predictors in depression: Time for personalised medicine or treatment stratification?

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doi: 10.1192/j.eurpsy.2021.40

In depression (MDD) treatment there is a clear need for novel treatments, biomarkers and individualized treatment approaches. One of the most promising and most widely investigated biomarkers for antidepressant treatments is the EEG. Most EEG biomarkers however, still lack robustness and reproducibility and suffer significant publication bias as highlighted in a recent meta-analysis (Widge et al., 2018). Therefore, large controlled validation studies are needed with a focus on robustness, replication and clinical relevance. In this presentation results will be presented from the largest EEG Biomarker study to date, the international Study to Predict Optimized Treatment in Depression (iSPOT-D), where 1008 MDD patients were randomized to Escitalopram, Sertraline and Venlafaxine. Drug-class specific (Arns et al., 2016) and drug-specific (Arns, Gordon & Boutros, 2015) biomarkers will be highlighted as well as preliminary data from a prospective feasibility trial. Furthermore, data will be presented on repetitive Transcranial Magnetic Stimulation (rTMS) treatment in MDD on EEG and clinical predictors (Krepel et al., 2018; 2019) and a new method called Neuro-Cardiac-Guided TMS (NCG TMS), that exploits network connectivity in the frontal vagal pathway, as a target engagement approach (Iseger et al., 2019).

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Finally, clinical implications and implementations will be discussed from a ‘treatment stratification’ perspective, which might be a more realistic goal relative to ‘personalized medicine’ perspective.

Disclosure: MA is unpaid research director of the Brainclinics Foundation, a minority shareholder in neuroCare Group (Munich, Germany), and a co-inventor on 4 patent applications related to EEG, neuromodulation and psychophysiology, but receives no royalties related

EPA, EAN and EFPA Symposium: You can tell a good workman by his tools: The instruments of psychiatrists, psychologists and neurologists. why so different?

EPAP0002

EAN Perspective

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doi: 10.1192/j.eurpsy.2021.41

29th European Congress of Psychiatry (EPA 2021) „You can tell a good workman by his tools: The instruments of psychiatrists, psychologists and neurologists: Why so different?“ The term psychology („the study of the soul“) appeared for the first time in a printed book of Freigius in 1578, while the term neurology („the study of the form and function of the nervous system“) was coined by Willis in 1664 and that of psychiatry („the medical treatment of the soul“) by Reil in 1808. First physicians to devote entirely to neurology appeared in the midst of the 19th century in France, Germany, and England. Around this time neurology, (biological) psychiatry and (experimental) psychology converged to share similar roots in the brain. The three disciplines separated (again) at the beginning of the 20th century. Neurology remained for over 100 years mainly a diagnostic discipline, in which history and clinical examination were expected to lead to the identification of a topographic syndrome (or lesion) and eventually its etiology. In the last 30 years neurology underwent a revolution. While the importance (and validity) of phenotypical diagnoses remained, new (e.g. neuroimaging, genetic) tools have made precise diagnoses and causal treatments increasingly possible, transforming neurology into a treating discipline. The author will discuss why the separation between neurology, psychiatry and psychology is artificial (and even harmful for patients), how the multidimensional tools developed over the years by these disciplines can be of

common interest, and what the EAN does to promote interdisciplinary scientific, educational, and political collaborations.

Disclosure: No significant relationships.

EPAP0003

EFPA Perspective

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doi: 10.1192/j.eurpsy.2021.42

Introduction: Psychologically, the question of profession-specific instruments and tools is not trivial. A profession is characterized by specific knowledge. Knowledge is regarded as part of professional competencies: What is done? How is something done? Why is something done? Knowledge and skills are acquired through specific training and continuing education.

Objectives: Professional knowledge is represented in a specific language. In addition, standards and regulations apply to differentiate it from other professions. Different languages and special professional regulations make cooperation more difficult. These obstacles must be overcome.

Methods: Instruments stand for professional identity. Competence-based tools are subject to professional legal regulations (e.g. following standards defined by EuroPsy Certificate of EFPA), ethical guidelines of the profession (professional ethics according to EFPA Meta-Code of Ethics) and external guidelines for professional practice (e.g. national and EU regulations). This ensures patient safety through Europe-wide standards. The investigation of profession-specific profiles and their modification, also under the conditions of the pandemic, becomes important.

Results: Professional instruments are protected by professional political boundaries. Profession-specific profiles are also an invitation to “coopetition”. While differentiation tends to lead to complementary mission fulfillment in practice, openness leads to a “spill-over of skills” in interdisciplinary practice. Alignment of competence profiles and cooperation are encouraged.

Conclusion: The future certainly lies in closer cooperation between the professions. The search for fundamental common ground (consilience), for effective and sustainable interventions (efficiency) and the demand for evidence-based practice (according to common ethical standards) place the well-founded benefit of an instrument for clients above any other interests.

Disclosure: No significant relationships.