

Oral presentation

Functional neuroimaging in psychiatry: a critical appraisal

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Functional neuroimaging is performed with a family of kindred methods (Magnetoencephalography [MEG], Positron Emission Tomography [PET], Single Photon Emission Computed Tomography [SPECT], and functional Magnetic Resonance Imaging [fMRI]). The main purpose of all functional neuroimaging is to disclose the pattern of resting activity of the brain, or patterns of task-specific activation, defined either in terms of neuronal signaling, of local metabolic and local blood flow rates or in terms of local density of specific neurotransmitter receptors throughout the brain. Establishing such patterns is relevant to psychiatry in two ways: First in characterizing in resting activity profiles that may differentiate diagnostic categories and, second, in disclosing the cerebral circuitry necessary for particular affective and cognitive functions that may be compromised in particular psychiatric disorders. The ultimate aim in both cases is enhancement of diagnostic accuracy as well as enhancement and verification of the efficacy of various therapeutic approaches. In this presentation, the degree to which these aims have been achieved, the methods that have been proved most suitable for addressing particular clinical issues and the most likely future developments will be outlined using as concrete examples neuroimaging data from several laboratories world wide.