

## Neuronal circuitry in obsessive-compulsive disorder

*Veltman DJ*

Clinical PET Center & Dept of Psychiatry, Vrije Universiteit, Amsterdam

Obsessive-compulsive disorder (OCD) is a frequently occurring (life time prevalence ca 2%) psychiatric disorder, which tends to run a chronic, remitting-relapsing course. OCD is traditionally viewed as an anxiety disorder, although clinically it is primarily characterized by intrusive thoughts, often related to aggression, sexuality, and contamination, and repetitive stereotyped behaviour (compulsions). The aetiology of OCD is insufficiently known, although lesion studies and neurosurgical data have implicated prefrontostriatal circuitry. Early imaging studies have shown increased resting state metabolism and perfusion of prefrontal and striatal regions in OCD, resolving after successful therapy. Activation studies using  $H_2^{15}O$ -PET or functional MRI have until recently focused on symptom provocation paradigms, with mixed results. In most studies, contaminated vs clean stimuli were used, either tactile or visual, revealing increased activity in striatum and orbitofrontal cortex as well as anterior medial temporal lobe (MTL). Recent functional imaging studies have also employed cognitive tasks, based on neuropsychological data indicating substantial deficits during performance of visuospatial and executive tasks in OCD. These studies confirm older resting state studies with regard to striatal dysfunction, and indicate increased involvement of posterior parietotemporal regions, presumably as a compensatory mechanism.

Dick J. Veltman, Clinical PET Center, Nuclear Medicine, VUMC, P.O. Box 7057, 1007 MB Amsterdam, e-mail [dj.veltman@vumc.nl](mailto:dj.veltman@vumc.nl)

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