Tardive Dyskenesia and Akathasia: A Dopamine system theory

Tamara C McGill Carter
The Chicago School of professional Psychology, USA

Statement of the Problem: Long term use of first-generation anti-psychotics (FGAs) have been theorized in the formation of motion disorders Tardive Dyskinesia and Akathasia and due to the breakdown in the extra pyramidal system (EPS) located in the Basal Ganglia (Lehne, 2013). The second-generation anti-psychotics (SGAs) were sourced to be the "treatment" of TD by blocking dopamine receptors with dopamine agonists of the D2-D5 receptors while also being seen as the genesis of AK. However, the blocking of the receptors in both motion disorders is a theory known as the dopamine blockage theory, despite the intermingle of other neurotransmitters such as Serotonin and Norepineprine (Lieberman, Stroup, McEnvoy, Swartz, Rosenheck, & Perkins, 2005).

The EP system includes theorized Dopamine and Serotonin connections within the Basal Ganglia, the striatopallidongral system, and other structures of the central nervous system that contribute to the regulation of movement, including brainstem nuclei and the cerebellum (Jibson, Marder, & Hermann, 2018). One example of a classical disorder of the pyramidal system is a stroke, resulting in paralysis of an extremity. Cortiospinal lesions above the pyramidal decussation typically result in paralysis of volitional movements of the contralateral half of the body (Patterson, McCahill, & Edwards, 2010). The pathophysiology of EPS disorders has been disputed because some EPS disorders may not involve lesions of the Basal ganglia. In addition, motions associated with said disorders may not be involuntary (Jibson, et al. 2018; Patterson, et al. 2010). Because of the problems inherited in the concept of the EPS, caution must be exercised in the classification of the EPS due the countless symptoms that mimic other motion disorders as certain neurotransmitters can create the actions of another.

Speaker Biography

Tamara C McGill Carter expertise is in Neuroanatomy and Neuroscience with a focus on the intricate workings of the Limbic and Memory systems. Her master's thesis surrounds Human Memory and Encoding, detailing the fundamental changes that creates as well as destroy memories. She is currently is training in to become a licensed Neuropsychologist and is also finishing her final year of the Chicago School of Professional Psychology's Educational Psychology and Technology doctorate program, due to graduate by next summer. Her dissertation's focus centers on Autism, Theory of Mind, and Executive Functioning. Her expertise in neuroanatomy further expanded while working with individuals with developmental disabilities/ delays at several Home Health Agencies, which created several projects centering on how autism and developmental delays affect the brain. She currently holds dual bachelor's degrees in Psychology from Indiana University Northwest in Gary and a Master of Arts degree from the Chicago School of professional Psychology, the concentration focus being Trauma and Crisis Intervention

e: Chirion_Lyons@hotmail.com

Notes: