

Effects of Cross-sex Hormones on Cognitive Abilities and the Psychological Characteristics of Gender Identity Disorder

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Abstract

Background: Gender identity disorder (GID) is characterized by a discrepancy between objective born sex and subjective gender identification, expressed as a feeling of being born in the wrong sex. Sex differences in certain cognitive abilities are well established. For example, men tend to excel in a targeting task, a mental rotation task, and a line orientation task, whereas women tend to excel in a verbal fluency task and a perceptual speed task. In an earlier study, they reported that 3 months of cross-sex hormone treatment influenced cognitive performance in GID patients. However, such an activating effect of cross-sex hormones could not be replicated in a later study.

Objectives: To examine whether cross-sex hormone treatments of GID patients would shift their cognitive abilities and psychological characteristics toward that of their subjective gender after 3-month therapy.

Method: FTM subjects were recruited from outpatients of the Fukuoka University Hospital from April 2007 to August 2009. We performed 4 sex-sensitive cognitive function tests (a mental rotation task, a targeting task, a verbal fluency task and the Pegboard task) and some psychological tests (Zung Self-rating Depression Scale: SDS, State-Trait Anxiety Inventory: STAI, Bem Sex Role Inventory: BSRI and State-Trait Anger Expression Inventory: STAXI) to them before and after 3 months of administration of testosterone.

Results: FTM patients showed an improvement in a mental rotation task and reduction of SDS score and STAI score after 3 months of hormonal treatment.

Conclusion: The administration of testosterone to FTM results in an improvement of their spatial abilities, depressed mood and anxiety.

Key words : gender identity disorder, cognitive abilities, psychological characteristics, hormonal therapy