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Tardive dyskinesia associated with metoclopramide in persons with developmental disabilities

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Abstract

Metoclopramide is an anti-emetic medication that has been associated with movement disorders such as extra-pyramidal reactions and tardive dyskinesia (TD). Reports of these reactions have been documented in the general population, but investigations of side effects in persons with mental retardation are scant. Given the high incidence of gastrointestinal disturbance in persons with mental retardation, and the popularity of this medication to treat such problems, these individuals could be at risk for developing movement disorders resulting from metoclopramide use. We compared incidence rates of TD over a 1-year period in developmentally disabled individuals taking either metoclopramide, typical antipsychotics, or no psychotropic medications (Table 1). Assessment was completed using the Dyskinesia Identification System—Condensed User Scale (DISCUS), a standardized measure of TD found to be reliable and valid for persons with mental retardation. No significant differences in DISCUS scores between the metoclopramide and antipsychotic treated groups were noted across four measurements taken during the course of 1 year. Additionally, no difference was found between these two groups for a number of participants who met criteria for probable TD on at least one of the DISCUS administrations. Comparisons between all three groups on one testing occasion revealed a significant difference between groups. The no psychotropic control group showed significantly less TD symptomology than the antipsychotic or metoclopramide groups. © 2002 Published by Elsevier Science Ltd.

Keywords: tardive dyskinesia; metoclopramide; mental retardation

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Table 1
Demographic and Axis I information for metoclopramide, typical antipsychotics, and no psychotropic medication groups

	Metoclopramide Group ($N = 25$)	Typical Antipsychotic Group ($N = 25$)	No Psychotropic Medication Group ($N = 25$)
Axis I diagnosis			
Bipolar Disorder	1	1	0
Schizophrenia	0	3	0
Autism/PDD	2	5	3
Anxiety Disorder NOS	0	1	0
Pica	0	1	0
Stereotypic Movement Disorder	3	2	2
Stereotypic Movement Disorder with SIB	4	9	0
Impulse Control Disorder NOS	0	4	0
Intermittent Explosive Disorder	0	1	0
Rumination	0	0	1
No diagnosis	16	2	19

1. Introduction

Antipsychotic medications have long been used to treat psychiatric disturbance and behavioral excesses in a variety of populations. While these medications are mainstays in the control of psychotic behavior, a host of deleterious side effects that often accompany the use of these medications has been well documented. Tardive dyskinesia (TD), a movement disorder characterized by frequent, repetitive, involuntary movements of the lips, tongue, jaw, face, trunk, and/or limbs, is one of the most notorious side effects of antipsychotic medications and has been found to affect approximately 24% of the general psychiatric patients taking antipsychotic medication (Jeste & Caligiuri, 1993; Wilson, Lott, & Tsai, 1998). The risk of developing this condition increases with length of treatment, a disturbing finding given the often chronic use of these medications (Jeste & Caligiuri, 1993).

Less is known about TD in persons with mental retardation. Several characteristics of TD are similar for general psychiatric and developmentally disabled populations (Cohen, Khan, Zheng, & Chiles, 1991). Prevalence estimates in persons with mental retardation taking antipsychotic medication range from 17 to 36%, while a rate of 24% has been found in the general psychiatric population (Cohen et al., 1991; Jeste & Caligiuri, 1993). Additionally, some of the same risk factors have been identified for this population (e.g., increasing age, female gender, lower cognitive functioning), although some studies have yielded conflicting findings (Matson, Bamburg, Mayville, & Logan, 2000; Richardson, Hlaugland, Pass, & Craig, 1986; Youseff & Waddington, 1988).

Dopamine antagonism is the most widely cited mechanism of action responsible for the therapeutic and side effects of antipsychotic medications, though multiple neurotransmitter systems are affected (McKim, 1996). A number of