

Cause of regression in individuals with Down syndrome identified

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Judith Miles found that Catatonia, a treatable disorder, may cause regression in patients with Down syndrome.

Down syndrome, the most common chromosomal disorder in America, can be complicated by significant deterioration in movement, speech and



functioning in some adolescents and young adults. Physicians previously attributed this regression to depression or early-onset Alzheimer's, and it has not responded to treatments. Now, a researcher at the University of Missouri has found that Catatonia, a treatable disorder, may cause regression in patients with Down syndrome. Individuals with regressive Down syndrome who were treated for Catatonia showed improvement, the researcher found.

"Our findings are important for young people with Down syndrome, autism and probably other neurodevelopmental disorders," said Judith Miles, professor emerita in the MU School of Medicine and researcher with the MU Thompson Center for Autism and Neurodevelopmental Disorders. "Until recently, Catatonia was felt to be just a complication of schizophrenia; however, it now is known that Catatonia is a common neuropsychiatric disorder that complicates many types of brain disorders. Our recognition that Catatonia occurs in young adults and adolescents with Down syndrome means these individuals who before were relegated to lives of incapacity may now receive treatments that restore them to their usual levels of activity."

Those who care for individuals with regressive Down syndrome describe them as "zombie-like," Miles said. Symptoms of regression can include difficulty moving and sleeping, inability to perform activities of daily living, no longer talking, and a lack of interest in previously enjoyed activities.

In her study, Miles followed the cases of four patients with Down syndrome who were diagnosed with Catatonia. Each patient improved when treated with a combination of benzodiazepine, a drug commonly used to treat anxiety, and electroconvulsive therapy.

"The wonderful thing is that Catatonia is a treatable cause of regression," said Miles, a pediatrician who led the Down syndrome clinic at MU for



many years. "When we treat these patients who otherwise would be condemned to stupor-like existences, they can return to their baseline level of functioning. So, not only do we have a diagnosis, but we also have a treatment that is backed by years of successful use by psychiatrists. We're also beginning to know how it works to correct imbalances in neurotransmitters in patients."

Miles said she wants families, physicians, teachers and therapists to know that Catatonia causes regression in Down syndrome so individuals with the disorder can receive accurate diagnosis and treatment. But, more research is needed to better understand Catatonia, identify its prevalence among patients with Down syndrome and improve treatment, Miles said.

"I consider it a public health issue to determine how often Catatonia occurs in patients with Down syndrome," Miles said. "We don't know what predisposes kids with Down syndrome to develop Catatonia. However, one of the things we do know is that individuals with Down syndrome tend to acquire autoimmune disorders, so we're looking into autoimmune function and its possible connection to Catatonia."

Miles collaborated with Neera Ghaziuddin of the University of Michigan and Armin Nassiri of Community Psychiatry in San Jose, California. Their study, "Catatonia in Down syndrome; a treatable cause of regression," is published in the journal *Neuropsychiatric Disease and Treatment*.

More information: *Neuropsychiatric Disease and Treatment*, www.ncbi.nlm.nih.gov/pmc/articles/PMC4396650/

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