Published in final edited form as:

Am J Geriatr Psychiatry. 2012 October ; 20(10): 909–910. doi:10.1097/JGP.0b013e318254619a.

Successful Electroconvulsive Therapy for Major Depression Misdiagnosed as Alzheimer Dementia

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TO THE EDITOR:

In older adults, depression may be phenotypically unconventional, masquerading as dementia among other somatic disguises. So-called “pseudodementia” has been recognized for decades, yet it is misdiagnosed and inadequately treated. We present the successful use of electroconvulsive therapy (ECT) to treat D.W., a 61-year-old man with cognitive impairment misdiagnosed as Alzheimer dementia.

One month before initiating ECT, the patient was involuntarily admitted to another hospital after attempting suicide by jumping naked out the window of his high-rise apartment. D.W. had been well until 2 years prior when, in the setting of job loss and his mother’s death, he became depressed and cognitively impaired. Suicidal ideation and threats to kill his wife with a steak knife prompted initial psychiatric hospitalization. Despite treatment with psychotherapy, and trials of paroxetine, duloxetine, mirtazapine, clonazepam, aripiprazole, and olanzapine, his wife reported that D.W. remained agitated, disoriented, and forgetful.

During the hospitalization antecedent to admission to our unit, psychotropic medications were discontinued. Extensive medical and neurologic diagnostic testing was remarkable only for mild, chronic microvascular ischemic disease on brain magnetic resonance imaging. Neuropsychologic testing demonstrated “significant impairments across multiple cognitive areas including orientation, immediate and delayed memory, language and attention,” leading to a working diagnosis of Dementia of the Alzheimer’s Type with Behavioral Disturbance with Early Onset, with a rule-out of major depressive disorder. The possibility that agitated depression could account for D.W.’s cognitive impairment resulted in referral to our institution for ECT.

His psychiatric history was significant for a depressive episode at the age of 37 years. His medical history included hypertension, glaucoma, retinal detachment, and inguinal hernia repair. Medications were metoprolol, losartan potassium, ophthalmic solutions, and ferrous sulfate. Family history was significant for a father with depression. Upon admission, D.W. gave consent for ECT and participation in a clinical ECT trial.

His baseline Hamilton Rating Scale for Depression–24 item (HRSD₂₄) was 37 and his Mini-Mental State Examination (MMSE) fluctuated between 24 and 27. He was unable to complete most of the baseline neuropsychological battery because of agitation and “confusion.”

He received 9 ECTs with right unilateral electrode placement and concurrent venlafaxine up to 150 mg/day. For each treatment, D.W. received methohexital, succinylcholine, labetalol, and ketorolac, as well as midazolam for post-ECT agitation. Following his acute course of ECT, D.W.’s (HRSD₂₄) was 2, his MMSE was 29, and his score on the California Verbal

Learning Test 2nd edition was dramatically improved. We initiated lithium carbonate 300 mg hour of sleep for maintenance after remission.

Our patient's case is noteworthy because his presenting cognitive symptoms were considered indicative of dementia rather than an affective disorder. Cognitive symptoms are a common presenting feature of depression in older adults. Our patient's cerebrovascular disease also raises the possibility of vascular depression; a well-characterized entity with prominent executive dysfunction that may not respond well to conventional SSRI therapy.^{1,2} Despite our patient's personal and family history of depression and a course atypical for Alzheimer Dementia, reliance on neuropsychological testing led to erroneous diagnosis. Definitive treatment with ECT resulted in resolution of cognitive and affective symptoms.

Decades ago, Wells³ described differences in clinical presentation between pseudodementia and dementia. Our report corroborates a study demonstrating that ECT may produce long-term cognitive improvement,⁴ as well as a report questioning the validity of the Dementia Rating Scale and MMSE in assessing patients with comorbid psychotic depression and cognitive impairment.⁵

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