Sustained Resolution of Panic Disorder, Agoraphobia, and Generalized Anxiety Disorder With a Single Ketamine Infusion: A Case Report

To the Editor: The antidepressant efficacy of ketamine is clear. Both a recent meta-analysis[1] and an American Psychiatric Association task force review[2] found that ketamine is superior to placebo in promoting acute antidepressant response. Studies of ketamine in other psychiatric disorders are more limited. A small trial[3] suggested ketamine is superior to midazolam for posttraumatic stress disorder. Another[4] has shown that it may have efficacy for obsessive-compulsive disorder. A literature search (in PubMed using the following keywords with no restrictions: *ketamine*, *agoraphobia*, *panic*, *generalized anxiety disorder*), however, returned no reports relevant to the use of ketamine for other anxiety disorders. Here, we present a case of sustained symptom relief following a single ketamine infusion in a patient with treatment-refractory panic disorder, agoraphobia, and generalized anxiety disorder.

Case report. Ms A is a 34-year-old woman with *DSM-5* panic disorder, agoraphobia, generalized anxiety disorder, and major depressive disorder. She suffered from long-standing inability to leave the home alone, fear of using public transportation, and avoidance of shopping centers. She had never learned to drive because of anxiety and could not work outside the home. She had panic attacks weekly, worried constantly about others being harmed through her actions, and was frequently suicidal. From June 2013 to the present, we treated her depression with a combination of escitalopram up to 30 mg daily, electroconvulsive therapy (ECT) (an acute series of 6 treatments from November 2014 and 16 maintenance treatments until August 2015), and lamotrigine up to 400 mg daily. Her anxiety was treated with lorazepam and more than 30 sessions of cognitive-behavioral therapy, including prolonged exposure therapy. Her mood and suicidal ideation improved, but her anxiety responded poorly, and she remained largely home-bound.

In July 2015, Ms A presented to the emergency department with severe cervicalgia. A magnetic resonance image showed 2 herniated discs. The emergency department physician administered a single infusion of 34 mg of ketamine (0.5 mg/kg) for pain. Four days before infusion, her 9-item Patient Health Questionnaire[5] and 7-item Generalized Anxiety Disorder scale[6] scores were 8 and 6, respectively. Although Ms A reported a dramatic decrease in anxiety immediately afterward, her scores fell to 3 and 1, respectively, a week after the ketamine infusion. This improvement continued for 10 weeks. She remained free of panic attacks, progressed to going to a department store alone several times weekly, started a business with a friend, volunteered at a local market, and used public transportation independently. Maintenance ECT was discontinued in August 2015. She remained euthymic. Remission continued even after a minor car accident in September 2015.

Given Ms A's minimal response to prolonged and intensive multimodal treatment and her sudden and dramatic improvement after an incidental infusion of ketamine for pain, we believe that Ms A represents a case of remission of treatment-refractory panic disorder, agoraphobia, and generalized anxiety disorder attributable to ketamine.

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