A Case Study of Treatment-Resistant Bipolar Disorder associated with Agitation and Irritability Managed with Ketamine Infusions as Monotherapy

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INTRODUCTION

Management of bipolar disorder (BPD) has been a challenge in the world of psychiatry. For many patients, the clinical course of BPD is chronic and dominated by depressive symptoms, including agitation and irritability.[1,2] Depressive episodes with mixed features are associated with higher rates of comorbidity and suicidality.[1] Current first-line pharmacotherapy includes mood stabilizers and antipsychotics; however, poor efficacy and tolerability further contribute to these rates. Ketamine, a glutamate N-methyl-D-aspartate (NMDA) receptor antagonist, has been shown rapidly effective for treatment-resistant mood disorders.[1,3]

CASE DESCRIPTION

53-year-old male presented with a history of bipolar disorder and episodes of suicidal ideation. Symptoms included anger, aggression, rage, irritability, and racing thoughts. Previous trials of antipsychotics and mood stabilizers were unsuccessful due to ineffectiveness or intolerability. Most notably, the patient took Zyprexa (olanzapine) for approximately seven years. Consequently, he suffered various metabolic side effects: elevations in AST and ALT with concern for fatty liver, a 66-pound weight gain of primarily abdominal fat despite efforts in diet and exercise, and an elevation in HgA1C necessitating management with Metformin. Concurrent to his signs of intolerance, his psychiatrist noted signs of decompensation, including excessive worry, decreased energy, low concentration, and worsening overall functionality. The patient was subsequently counseled to taper off both Zyprexa and Fluoxetine and was referred to an experimental treatment option using ketamine infusions.

Figure 1: IV Infusion
Photo Courtesy of: "Dr. Radoff Intravenous Infusion Therapy"
From: https://alternativemedicalcareofarizona.com/intravenous-infusion-therapy/

Dose: 0.5mg/kg + 500 cc 0.9% NS → Rate: 1-3mg/kg/min → 40 min infusion

RESULTS

Patient has tolerated infusions well with stable vital signs throughout, NSR without ectopy, and no complications. The most prominent side effect reported was dissociation, which he has mitigated with music therapy. Less prominent side effects were nausea and dizziness. Within two hours after his first infusion, he reported that his racing thoughts had ceased for the first time in his life. The patient has received twelve infusions to date and has been off previously prescribed medications since July 2019. He receives infusions every three months or as needed according to symptom return. Since discontinuing Zyprexa, he has lost 36 lbs., and his appetite has noticeably decreased. Since using ketamine exclusively, the patient denies episodes of suicidal ideation. He reports a decrease in racing thoughts, aggression, irritability, and rage. He reports an increase in energy and strength. Improvement in societal function and interpersonal relationships have also resulted with the use of ketamine.

DISCUSSION

This case highlights the use of ketamine as monotherapy for patients with treatment-resistant bipolar disorder or for those unable to tolerate pharmacotherapy. In this case, ketamine was noted to be highly efficacious and well tolerated compared to previous trials of medication. Short-term side effects may include drowsiness, dizziness, dissociation, nausea, and transient hypertension.[4] As a monotherapy, ketamine may be an efficacious option in the long-term management of BPD. More studies are necessary to evaluate physiological consequences of long-term use. Continued consideration of ketamine for those with treatment-resistant mood disorders may lead to a reduction in morbidity and mortality associated with current pharmacotherapies and consequences of refractory disease, including suicide.

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