

How precision psychiatry helped my patient

I applaud Dr. Nasrallah's editorial "The dawn of precision psychiatry" (From the Editor, *CURRENT PSYCHIATRY*, December 2017, p. 7-8,11). Since the late 1990s, I have been practicing psychiatry in this mode in increasingly greater degree. I thought you would be interested in a recent case that demonstrates the application of precision psychiatry in an adolescent patient previously diagnosed with an attention disorder, an anxiety disorder, and a possible dissociative disorder.

Ms. G, age 14, presented with periodic emotional "meltdowns," which would occur in any setting, and I determined that they were precipitated by a high glycemic intake. By carefully controlling her glycemic intake and starting her on caprylic acid (a medium-chain triglyceride, which was used to maintain a ketotic state), 1 tablespoon 3 times daily, we were able to reduce the frequency of her episodes by 80% to 90%. Using data from commercially available DNA testing, I determined that she had single nucleotide polymorphisms (SNPs) in an alpha-ketoglutarate dehydrogenase gene,

which is primarily located in the prefrontal cortex (PFC), and whose function is supported by thiamine and impaired by high glycemic intake.¹ After adding oral thiamine hydrochloride, 100 mg twice a day, and correcting other abnormalities (eg, she was hypothyroid), her episodes are now rare. She is functioning well, has been getting high grades, and recently wrote a 40-page short story.

Once she improved, she was able to describe having a partial seizure, with a rising sensation, which often improves with ketosis. Clearly, disruption of her PFC energetics due to the SNPs described above contributed to the disinhibition of the temporal lobe structures. Furthermore, she has an APOE3/4 status, which puts her at risk for Alzheimer's disease. Her mother was educated about the importance of good health habits, which is personalized and preventative medicine.

Robert Hedaya, MD, DLFAPA

Clinical Professor
MedStar Georgetown University Hospital
Washington, DC
Faculty
Institute for Functional Medicine
Gig Harbor, Washington, DC
Founder
National Center for Whole Psychiatry
Rockville, Maryland

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Dr. Nasrallah responds

My thanks to Dr. Hedaya for his letter and for providing an excellent example of precision psychiatry. His brief case vignette brings it to life! I commend him for practicing on the cutting-edge of psychiatry's scientific frontier.



December 2017

Ketamine: The next 'opioid crisis'?

The chief of the FDA, Scott Gottlieb, MD, recently discussed the need to learn from the mistakes that contributed to the current opioid epidemic¹ and how to curb this crisis. Understanding some of the potential pitfalls could help us prevent, or better manage, the next crisis. Despite the bad press about the opioid crisis,² there seems to be growing promise of another: ketamine. Although ketamine is classified as a Schedule III drug by the Drug Enforcement Agency³ and has a well-documented potential for dependency,⁴ this medication is now being considered a potential treatment for acute suicidality and depression.

There are many similarities between the use of opioids to treat pain and the potential use of ketamine to treat suicidality. Physical and mental pain are subjective, qualitative, and difficult to quantify, which makes it difficult to develop accurate measurements of symptom severity. Chronic physical pain and suicidality are not illnesses, but symptoms of myriad types of pathologies with differing etiologies and treatment options.⁵ Due to the ambiguous and subjective experience of physical and mental pain, we tend to lump them together as 1 pathological category without understanding

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pathophysiologic differences. The most commonly reported types of pain include low back pain, migraine/headache, neck pain, and facial pain.⁶ However, each of these pain types would likely have a different pathophysiology and treatment. Likewise, suicide can be associated with various psychiatric conditions,⁷ and suicidality resulting from these conditions may require a different etiology and treatment.

We already know that both opioids and ketamine are addictive. For example, there is a report of a nurse stealing a hospital's supply of ketamine and self-treating for depression, which led to an inpatient detox admission after she developed toxicity and addiction.⁸ Some ketamine research supports its safe use, but it may be biased due to conflicts of interest. For example, several authors of a recent study proclaiming the effectiveness of a single dose of ketamine in treating suicidal ideation are named on patents or are employed by companies named on patents related to ketamine and would financially benefit from FDA-approval of ketamine for the treatment of psychiatric disorders.⁹

Warnings stating how both opioid and ketamine should be used were published years ago but have since

been ignored. For example, a 1977 article advocated that opioids should only be used for a "short duration and limited to patients with acute diseases or inoperable or metastatic cancer who require long-term relief."¹⁰ The rationale for this distinction was foretelling of the current opioid epidemic: "Continued and prolonged use of narcotics in patients with chronic benign pain is not recommended because of serious behavioral consequences, the development of tolerance, and addiction liability. Long-term use of analgesic drugs in chronic pain usually produces negative behavioral complications that are more difficult to manage than the pain it was desired to eliminate."¹⁰ We knew better then.

The earliest report of ketamine dependency I could find was published in 1987, which predates its classification as a controlled substance.¹¹ More recently, ketamine dependency has been associated with adverse effects that are similar to "not only cocaine and amphetamine but also with opiates, alcohol and cannabis, as well as the psychological attractions of its distinctive psychedelic properties."¹² We should consider ourselves warned.

Michael Shapiro, MD
Assistant Professor
Department of Psychiatry
University of Florida
Gainesville, Florida

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