



Tianeptine: A Street Drug With Severe Opiate-like Withdrawal Leading to Suicidal Ideation

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Introduction

Tianeptine is considered an atypical antidepressant that exerts its effects via agonism of mu and delta-opioid receptors, and may increase dopamine release. This medication is closely regulated in various regions including Latin America and Europe but has not been approved for prescription usage in the United States. Due to the lack of regulations along with the loss of the drug's patent in 2012, Tianeptine has been available over the counter, online, and in many gas stations where it is marketed as "Tianna", "Tiamex" and "Zaza".

Case 1

- A 37-year-old male with a PMH of depression and substance abuse presented to the ED due to SI for one week, with plans to overdose on heroin.
- Patient was recently kicked out of halfway house due to abuse of an over the counter "Tianna capsule". The patient stated he had been taking these pills on and off for 3 years, with daily usage over the past three months. He reported starting out taking 5 pills per day and progressed to 30-35 pills per day. The patient described the effects of Tianeptine as "similar to an opiate high", in which he feels carefree, has a sense of euphoria, and experiences improved sleep. He described his withdrawal symptoms as depression, body aches, insomnia, and restless legs, then later vomiting, diarrhea, and decreased appetite. He endorsed experiencing visual hallucinations in which he could view and interact with a hologram projection of his cell phone while closing his eyes.
- The patient was started on Buprenorphine 0.3 mg tid for 3 days along with Baclofen 10 tid for 3 days. This regimen improved his symptoms significantly, and he was referred to an outpatient substance abuse program and discharged from the hospital after 4 days. He was given a prescription for venlafaxine 75 mg daily along with Quetiapine 100 mg qhs.

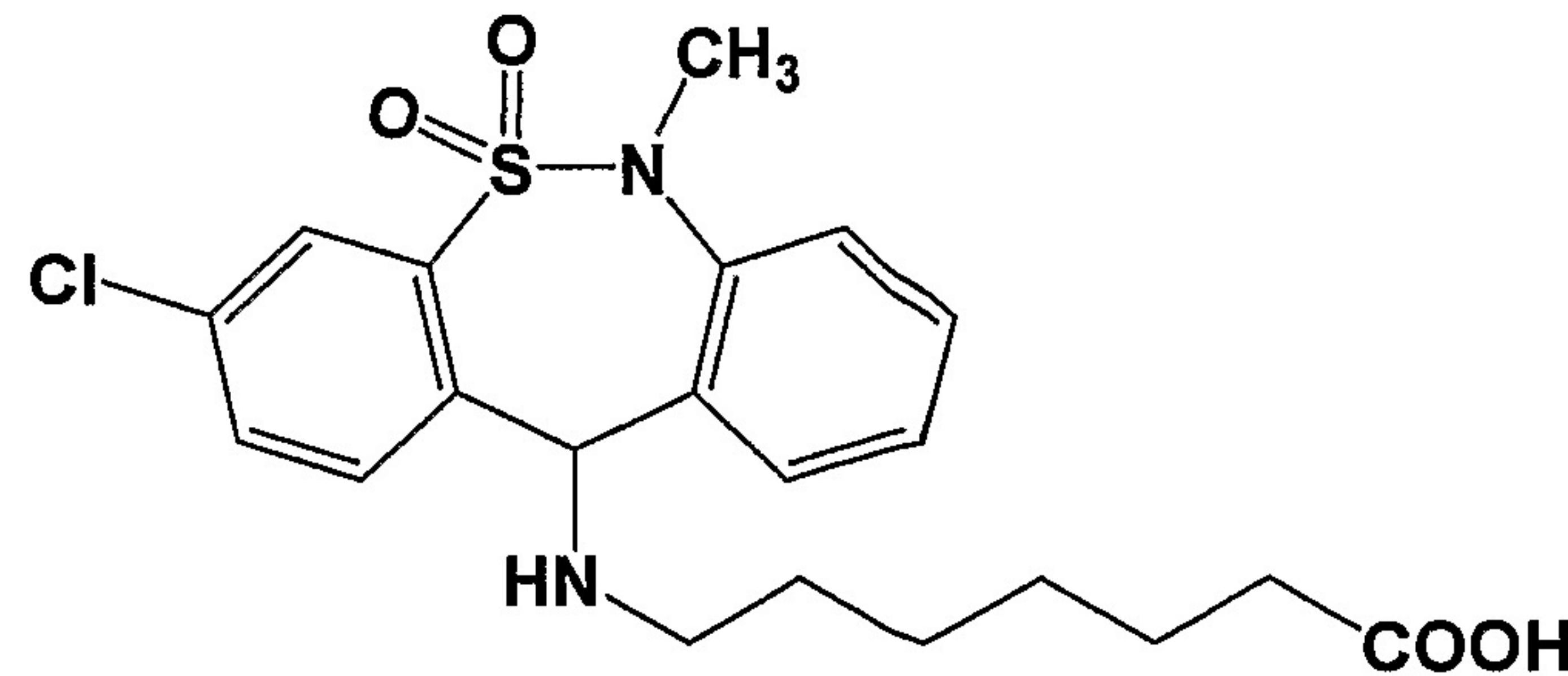


Figure 1. Structure of Tianeptine

Case 2

- A 23-year-old male with a PMH of substance abuse, anxiety, and depression presented to the ED with SI with thoughts of cutting his wrists or obtaining a gun. He reported consuming 12 ounces of vodka earlier in the day and lab results revealed a blood alcohol level of 277mg/dL.
- The patient started using Tianeptine about three months ago after hearing about it while in recovery. He reported starting out 3 pills per day and experienced feelings of euphoria lasting approximately 30-60 minutes. After about one week of daily use, he was taking about 15 pills every morning with effects lasting up to 2-3 hours. One week prior to admission, the patient stopped taking Tianeptine due to financial limitations and began experiencing withdrawal symptoms within 36 hours. Symptoms included intense muscle aches, overwhelming depression, rhinorrhea, nausea, and insomnia with associated restless legs.
- The patient was started on Buprenorphine 0.3mg tid for 4 days, Baclofen 10 mg tid for 4 days, and Gabapentin 300mg TID for 3 days. By day four, there was a noticeable improvement in symptoms and the patient was discharged from the hospital with an outpatient psychiatric referral. He was prescribed Quetiapine 100mg qhs, venlafaxine 75 mg tid, and vortioxetine 10 mg daily.

Discussion

Tianeptine withdrawal should be suspected in patients presenting with opiate withdrawal symptoms with a negative urine drug screen for opiates. Severe depression, restless legs, and visual hallucinations may be additional symptoms of Tianeptine withdrawal compared to opioids. This could be due to the increase in dopamine release that occurs with Tianeptine administration, plausibly resulting in decreased dopamine during withdrawal. Many patients may be taking Tianeptine over the counter without realizing its addictive nature, so it is important to identify and educate patients about the risks associated with Tianeptine use.



Figure 2. Over the Counter Tianeptine

References

1. Springer J, Cubala WJ. Tianeptine Abuse and Dependence in Psychiatric Patients: A Review of 18 Case Reports in the Literature. *J Psychoactive Drugs*. 2018 Jul-Aug;50(3):275-280. doi: 10.1080/02791072.2018.1438687. Epub 2018 Mar 1. PMID: 29494783.
2. Vadachkoria D, Gabunia L, Gambashidze K, Pkhaladze N, Kuridze N. Addictive potential of Tianeptine - the threatening reality. *Georgian Med News*. 2009 Sep;(174):92-4. PMID: 19801742.
3. Gassaway, M., Rives, ML., Kruegel, A. *et al.* The atypical antidepressant and neurorestorative agent tianeptine is a μ -opioid receptor agonist. *Transl Psychiatry* 4, e411 (2014). <https://doi.org/10.1038/tp.2014.30>
4. McEwen, B., Chattarji, S., *et al.* The neurobiological properties of Tianeptine (Stablon): from monoamine hypothesis to glutamatergic modulation. *Mol psychiatry*. 2010 Mar; 15(3): 237-249.
5. Rushton W, Whitworth B, Brown J, Kurz M, Rivera J. Characteristics of tianeptine effects reported to a poison control center: a growing threat to public health. *Clin Toxicol (Phila)*. 2021 Feb;59(2):152-157. doi: 10.1080/15563650.2020.1781151. Epub 2020 Jun 18. PMID: 32552075.