

### Type of research: Case Study, Abstract 25-1-01

**Title:** Utilizing the Biopsychosocial Assessment to Strengthen Compliance for Patients with Major Depressive Disorder

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Additional Author(s): Andrea Yates, DO; Praveen Narahari, MD; Ali Pervaiz, MD.

Introduction/Background: The Biopsychosocial Model (BPSM) is an assessment developed to aid clinicians in the process of determining which factors modify health and disease. The BPSM takes into account the various levels of physical, cognitive, emotional, behavioral, and environmental factors that contribute to an individual's disease process.1 Major Depressive Disorder (MDD) is a mood disorder characterized by persistent sadness and anhedonia.2-3 We will be exercising this approach as it pertains to patients with MDD to potentially influence outcomes and analyze how improved compliance leads to less healthcare utilization decreasing overall economic burden.

**Description:** A 51-year-old male with Hypothyroidism and Heart Failure is admitted to the inpatient psychiatric unit with complaint of worsening depression and suicidal ideation with a plan. The patient has a past psychiatric history of depression, culminating in 3 hospital admissions over the span of 32 days. Upon each admission, the patient reported medication non-compliance due to being unable to afford his medication. Notable labs include TSH 168.00 ulU/mL, Free T4 Index 0.2 ug/dL, and Thyroxine (T4) 1.0 ug/dL. The patient was started on Lexapro, Levothyroxine, and eventually Abilify. With improvement of symptoms, the patient was discharged to follow up with an outpatient psychiatrist and a plan for the acquisition of his medications.

**Discussion and Conclusion:** Socioeconomic status greatly affects patient's access to care, insurance status, and treatment compliance,7 which potentially leads to increased hospitalizations and workload. In this case, a central cause for readmission was the lack of safe disposition, consisting of a secure follow-up appointment and plan for medication compliance, including cost assistance. This patient has limited resources with no capacity to pay for medications and appointments. While this case paints an individual's story, it also represents a large population of patients. It further demonstrates the value of the biopsychosocial assessment and how mental health is affected by social determinants of health. Visualizing how these components are

intertwined within this case shows the necessity for innovative assistance programs and ways to help patients of lower socioeconomic status.

**References:** Peterson, A. L., Goodie, J. L., & Andrasik, F. (2015). Introduction to biopsychosocial assessment in clinical health psychology. In F. Andrasik, J. L. Goodie, & A. L. Peterson (Eds.), Biopsychosocial assessment in clinical health psychology (pp. 3–7). The Guilford Press.

Otte, C., Gold, S. M., Penninx, B. W., Pariante, C. M., Etkin, A., Fava, M., Mohr, D. C., & Schatzberg, A. F. (2016). Major depressive disorder. Nature reviews. Disease primers, 2, 16065. https://doi.org/10.1038/nrdp.2016.65

Cutler, A. J., Keyloun, K. R., Higa, S., Park, J., Bonafede, M., Gillard, P., & Jain, R. (2022). Annual costs among patients with major depressive disorder and the impact of key clinical events. Journal of managed care & specialty pharmacy, 28(12), 1335–1343. https://doi.org/10.18553/jmcp.2022.28.12.1335

Ryu, E., Chamberlain, A. M., Pendegraft, R. S., Petterson, T. M., Bobo, W. V., & Pathak, J. (2016). Quantifying the impact of chronic conditions on a diagnosis of major depressive disorder in adults: a cohort study using linked electronic medical records. BMC psychiatry, 16, 114. https://doi.org/10.1186/s12888-016-0821-x

Teigland, C., Mohammadi, I., Agatep, B. C., Boskovic, D. H., & Velligan, D. (2024). Relationship between social determinants of health and hospitalizations and costs in patients with major depressive disorder. Journal of managed care & specialty pharmacy, 30(9), 978–990. https://doi.org/10.18553/jmcp.2024.30.9.978

Greenberg, P. E., Fournier, A. A., Sisitsky, T., Simes, M., Berman, R., Koenigsberg, S. H., & Kessler, R. C. (2021). The Economic Burden of Adults with Major Depressive Disorder in the United States (2010 and 2018). PharmacoEconomics, 39(6), 653–665. https://doi.org/10.1007/s40273-021-01019-4

Proudman, D., Greenberg, P., & Nellesen, D. (2021). The Growing Burden of Major Depressive Disorders (MDD): Implications for Researchers and Policy Makers. PharmacoEconomics, 39(6), 619–625. https://doi.org/10.1007/s40273-021-01040-7

Stensland, M., Watson, P. R., & Grazier, K. L. (2012). An examination of costs, charges, and payments for inpatient psychiatric treatment in community hospitals. Psychiatric services (Washington, D.C.), 63(7), 666–671. https://doi.org/10.1176/appi.ps.201100402

NCHS Data Query System. Unmet need for health care due to cost: Nonreceipt of needed prescription drugs due to cost [Internet]. Hyattsville (MD): National Center for Health Statistics; c2024 [cited 2025 Jan 28]. Available from: https://www.cdc.gov/nchs/dqs

Owens PL (AHRQ), Fingar KR (IBM Watson Health), McDermott KW (IBM Watson Health), Muhuri PK (AHRQ), Heslin KC (AHRQ). Inpatient Stays Involving Mental and Substance Use Disorders, 2016. HCUP Statistical Brief #249. March 2019. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb249-Mental-Substance-Use-Disorder-Hospital-Stays-2016.pdf

Agency for Healthcare Research and Quality (AHRG), Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) 2010 to 2021

**Discussion:** Socioeconomic status greatly affects patient's access to care, insurance status, and treatment compliance,7 which potentially leads to increased hospitalizations and workload. In this case, a central cause for readmission was the lack of safe disposition, consisting of a secure follow-up appointment and plan for medication compliance, including cost assistance. This patient has limited resources with no capacity to pay for medications and appointments. While this case paints an individual's story, it also represents a large population of patients. It further demonstrates the value of the biopsychosocial assessment and how mental health is affected by social determinants of health. Visualizing how these components are intertwined within this case shows the necessity for innovative assistance programs and ways to help patients of lower socioeconomic status



## Type of research: Case Study, Abstract 25-1-02

Title: When Vision Blurs Reality: Steroid Eye Drops Induced Psychosis

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Additional Author(s): Praveen Narahari, MD

Introduction/Background: Corticosteroids are widely used for their anti-inflammatory properties in various medical conditions, including ophthalmic disorders. While systemic corticosteroids have well-documented psychiatric side effects, psychosis induced by ophthalmic corticosteroids is a rarely reported phenomenon; only about 5 cases have been published. Corticosteroids can cross the blood-brain barrier, leading to neuropsychiatric effects such as mood disturbances, mania, depression, and psychosis. Recognizing iatrogenic psychiatric side effects of medications, including topical treatments like eye drops, is critical for early diagnosis and appropriate management.

**Description:** A 61-year-old male with no prior psychiatric history underwent retinal reattachment surgery and was prescribed prednisolone acetate 1% eye drops. By postoperative day 5, he had overused the drops, leading to an early refill request. Within 48 hours, he developed insomnia, erratic speech, and paranoia, followed by vivid visual hallucinations of armed intruders with red body paint. On postoperative day 12, he discharged a firearm inside his home in response to perceived threats. The following day, he voluntarily admitted himself to inpatient psychiatry for evaluation.

On assessment, he exhibited delusions, poor insight, and fair judgment, though he denied suicidal or homicidal ideation. Urine drug screen, head CT, and metabolic panels were unremarkable, prompting consideration of iatrogenic steroid-induced psychosis. Treatment involved tapering prednisolone, implementing punctual occlusion to limit systemic absorption, and initiating olanzapine 5 mg nightly, which led to symptom resolution.

**Discussion and Conclusion:** This case underscores the psychiatric risks associated with ophthalmic corticosteroid use, particularly in patients susceptible to systemic steroid effects. While rare, ophthalmic corticosteroids can induce psychosis through systemic absorption. Early recognition and interdisciplinary collaboration between psychiatry and ophthalmology are critical to prevent severe outcomes. Key management strategies in this case included:

Tapering corticosteroid use to minimize exposure.

Implementing punctal occlusion to limit systemic absorption.

Initiating antipsychotic therapy (olanzapine 5 mg) to address acute psychotic symptoms.

1. Healthcare providers should maintain a high index of suspicion for steroid-induced psychosis, even from ophthalmic corticosteroids.

2. Proper medication tapering, punctal occlusion, and psychiatric monitoring are crucial for reducing psychiatric risks associated with corticosteroid therapy.

3. A multidisciplinary approach, including psychiatry and ophthalmology, is essential for timely diagnosis and effective management of iatrogenic neuropsychiatric effects.

**References:** Warrington TP, Bostwick JM. Psychiatric adverse effects of corticosteroids. Mayo Clin Proc. 2006;81(10):1361-7. doi:10.4065/81.10.1361.

Alsalem M, et al. Mania as a Rare Adverse Event Secondary to Steroid Eye Drops. Case Rep Psychiatry. 2022;2022:4456716. doi:10.1155/2022/4456716.

Vaajanen A, Vapaatalo H. A single drop in the eye: effects on the whole body? The Open Ophthalmology J. 2017;11:305-314.

Mok V., Malladi S. Manic episode in an elderly patient secondary to the application of corticosteroid eye drops: a case report. Eur Psychiatry. 2013;28:1. doi:10.1016/S0924-9338(13)77111-6.

King JD, Elliott T, Pitman A. Steroid-induced mania in a patient with previously wellcontrolled organic bipolar disorder secondary to acquired brain injury: case report and literature review. Discov Ment Health. 2024;4:8. doi:10.1007/s44192-024-00061-w.



## Type of research: Case Study, Abstract 25-1-03

Title: Zuranolone: A Game-changer in Postpartum Depression Care

Presenting Author: Racquel McCrary, MS-3, UAB Heersink School of Medicine

Additional Author(s): Janaki Nimmagadda M.D., Anupama Yedla M.D., Clinton Martin M.D.

**Introduction/Background:** Postpartum depression (PPD) affects approximately 1 in 7 women within the first year after childbirth. The DSM-5-TR classifies PPD as a major depressive episode occurring during pregnancy or within four weeks postpartum. Hormonal fluctuations, particularly a decrease in progesterone and its metabolite allopregnanolone, reduce GABA-A receptor activity, contributing to depressive symptoms. Zuranolone, a neuroactive steroid and GABA-A receptor modulator, became the first FDA-approved oral therapy for PPD in early 2024.

**Description:** A 26-year-old (G1P1) with a history of untreated teenage anxiety and past emotional abuse presented for post-hospitalization follow-up after treatment for postpartum depression. She had delivered spontaneously at 35 weeks and was admitted for inpatient psychiatric care two months postpartum due to sadness, low energy, guilt, difficulty concentrating, and suicidal ideation. She was treated with cognitive-behavioral therapy (CBT) and escitalopram. At her first follow-up, she reported moderate improvement but disclosed an abusive marriage contributing to her distress. Six months later, she showed significant progress, gained clarity, and decided to leave her marriage and relocate. This case illustrates a common postpartum depression treatment trajectory and raises consideration for the potential role of Zuranolone.

**Discussion and Conclusion:** Zuranolone offers a promising alternative for PPD due to its rapid symptom relief, sustained efficacy, and oral administration. Compared to SSRIs, preliminary data suggest superior outcomes. A systematic review found greater reductions in Edinburgh Postnatal Depression Scale (EPDS) scores with Zuranolone at days 15 and 45. Clinical trials also demonstrated a more significant reduction in HAMD-17 scores compared to placebo from day 3 to day 45, underscoring its rapid and sustained effect.

However, limitations exist. Direct comparisons with SSRIs are scarce, and long-term remission data, particularly regarding breastfeeding safety, remain limited. Additionally,

its high cost may hinder widespread adoption. While Zuranolone represents a breakthrough in PPD treatment, further studies are needed to determine its optimal role in clinical practice.

**References:** 1 Carlson K, Mughal S, Azhar Y, et al. Postpartum Depression. [Updated 2024 Aug 12]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/sites/books/NBK519070/

2 Deligiannidis KM, Meltzer-Brody S, Gunduz-Bruce H, Doherty J, Jonas J, Li S, Sankoh AJ, Silber C, Campbell AD, Werneburg B, Kanes SJ, Lasser R. Effect of Zuranolone vs Placebo in Postpartum Depression: A Randomized Clinical Trial. JAMA Psychiatry. 2021 Sep 1;78(9):951-959. doi: 10.1001/jamapsychiatry.2021.1559. Erratum in: JAMA Psychiatry. 2022 Jul 1;79(7):740. doi: 10.1001/jamapsychiatry.2022.1274. Erratum in: JAMA Psychiatry. 2023 Feb 1;80(2):191. doi: 10.1001/jamapsychiatry.2022.4181. PMID: 34190962; PMCID: PMC8246337.

3 Zurzuvae® (zuranolone) C-IV: Official patient website. ZURZUVAE® (zuranolone) C-IV | Official Patient Website. (n.d.). https://www.zurzuvae.com/

4 Meltzer-Brody, S., Gerbasi, M. E., Mak, C., Toubouti, Y., Smith, S., Roskell, N., Tan, R., Chen, S. S., & Deligiannidis, K. M. (2024). Indirect comparisons of relative efficacy estimates of zuranolone and selective serotonin reuptake inhibitors for postpartum depression. Journal of medical economics, 27(1), 582–595. https://doi.org/10.1080/13696998.2024.2334160

5 Scarff J. R. (2019). Use of Brexanolone for Postpartum Depression. Innovations in clinical neuroscience, 16(11-12), 32–35.

6 What should I know about Zuranolone and postpartum depression?. ACOG. (n.d.). https://www.acog.org/womens-health/experts-and-stories/ask-acog/what-should-iknow-about-zuranolone-and-postpartumdepression#:~:text=Also%2C%20zuranolone%20passes%20into%20breast for%20you%20

depression#:~:text=Also%2C%20zuranolone%20passes%20into%20breast,for%20you%20a nd%20your%20baby.

7 Zurzuvae cost: Insurance coverage, discounts, and more. (n.d.-b). https://www.goodrx.com/zurzuvae/cost



## Type of research: Case Study, Abstract 25-1-04

Title: A New Hope for Depression: NV-5138's Game-Changing Potential

Presenting Author: Mina Takahashi, Research Scholar, UAB

Additional Author(s): Clinton Martin, MD, Richard Shelton, MD: Department of Psychiatry, Heersink School of Medicine Huntsville Regional Medical Campus University of Alabama at Birmingham

**Introduction/Background:** Antidepressants targeting monoamine systems, such as SSRIs, have been used for decades to treat Major Depressive Disorder (MDD), but their delayed onset and limited efficacy highlight the need for faster-acting treatments. Ketamine, an FDA-approved anesthetic and pain management agent, has emerged as a rapid antidepressant. It blocks NMDA receptors on GABA interneurons, reducing GABA's inhibition of glutamate neurons and increasing glutamate release. This stimulates AMPA receptors, leading to a significant increase in BDNF release. BDNF activates its receptor, TrkB, which in turn activates mTORC1, promoting synapse formation and improving emotional regulation. While ketamine has shown rapid antidepressant effects, its clinical use is limited by short-lived benefits, the need for repeated dosing, and adverse effects like dissociation and psychosis. This case emphasizes the need for treatments that offer rapid relief without these unwanted side effects.

**Description:** A 41-year-old male with a long-standing history of MDD since 1995 presented with persistent depressive symptoms despite prior treatments. He had taken bupropion (dose unknown) for 10 years before switching to sertraline 100 mg daily for another decade, yet his depression remained between moderate and severe. Before initiating NV5138, his Montgomery-Åsberg Depression Rating Scale (MADRS) score was 24, indicating moderate to severe depression. One week after receiving the first dose of NV5138, his MADRS score dropped significantly to 1, with sustained remission throughout the six-week trial period, maintaining a MADRS score of 0. The only reported reaction was transient lethargy the day after treatment, with no other adverse effects observed. This case highlights NV5138's potential as a promising treatment for individuals with treatment-resistant depression, warranting further investigation into its long-term efficacy and safety.

**Discussion and Conclusion:** The limitations of ketamine, particularly its adverse effects, highlight the need for safer alternatives. NV-5138, under development by Supernus

Pharmaceuticals for TRD, is a promising candidate. As a leucine analog, it binds to sestrins, inhibiting their suppression of mTORC1, which in turn promotes synapse formation and restores emotional regulation. Preclinical studies suggest NV-5138 induces rapid, sustained antidepressant effects similar to ketamine but with fewer side effects. By mimicking ketamine's mechanism while improving safety, NV-5138 offers a potential bridge between slower-acting SSRIs and ketamine's limitations.

**References:** 1. Antos, Z., Żukow, X., Bursztynowicz, L., & Jakubów, P. (2024). Beyond NMDA receptors: A narrative review of ketamine's rapid and multifaceted mechanisms in depression treatment. International Journal of Molecular Sciences, 25(24), 13658. https://doi.org/10.3390/ijms252413658

2. Hasegawa, Y., Zhu, X., & Kamiya, A. (2019). NV-5138 as a fast-acting antidepressant via direct activation of mTORC1 signaling. The Journal of Clinical Investigation, 129(6), 2207–2209. https://doi.org/10.1172/JCl129702

3. Kato, T., Pothula, S., Liu, R.-J., Duman, C. H., Terwilliger, R., Vlasuk, G. P., Saiah, E., Hahm, S., & Duman, R. S. (2019). Sestrin modulator NV-5138 produces rapid antidepressant effects via direct mTORC1 activation. Journal of Clinical Investigation, 129(6), 2542–2554. https://doi.org/10.1172/JCI126859

4. Matveychuk, D., Thomas, R. K., Swainson, J., Khullar, A., MacKay, M.-A., Baker, G. B., & Dursun, S. M. (2020). Ketamine as an antidepressant: Overview of its mechanisms of action and potential predictive biomarkers. Therapeutic Advances in Psychopharmacology, 10, 2045125320916657. https://doi.org/10.1177/2045125320916657

5. Xu, S., Yao, X., Li, B., Cui, R., Zhu, C., Wang, Y., & Yang, W. (2022). Uncovering the underlying mechanisms of ketamine as a novel antidepressant. Frontiers in Pharmacology, 12, 740996. https://doi.org/10.3389/fphar.2021.740996



## Type of research: Case Study, Abstract 25-1-05

**Title:** Antihypertensive drugs and risk of depression - A case of lisinopril induced depressive episode

Presenting Author: Bhargavi Nagendra, PGY-2, North Alabama Shoals Hospital

Additional Author(s): Ali Pervaiz, MD; Praveen Narahari, MD : North Alabama Shoals Hospital, Muscle Shoals, AL

**Introduction/Background:** Angiotensin-converting enzyme inhibitors (ACEIs), such as lisinopril, are frequently prescribed medications used to treat heart failure and hypertension.

This case highlights the importance of considering medication-induced psychiatric symptoms, particularly in patients with multiple co-morbidities who may be on complex medication regimens.(1)

**Description:** The patient is a 67-year-old overweight male with no significant past psychiatric history. His past medical history is notable for chronic congestive heart failure (CHF), stage 3 chronic kidney disease (CKD), diabetes mellitus, and hypertension. He presented with a chief complaint of pervasive sadness, anhedonia, anergia, negative rumminations, and suicidal ideation.

Upon detailed evaluation, it was determined that the onset of these symptoms coincided with a recent change in his antihypertensive medication to lisinopril, which occurred approximately one month prior to presentation. The patient reported the emergence of suicidal thoughts, which prompted him to seek psychiatric care. Despite these distressing symptoms, the patient demonstrated good insight into his condition.

**Discussion and Conclusion:** Given the temporal relationship between the initiation of lisinopril and the onset of depressive symptoms, including suicidal ideation, the clinical picture suggested a probable drug-induced mood disorder. However, it is important to consider the broader context of cardiovascular illness and its association with depression. Caution is warranted in attributing causality without considering the broader clinical context. In this case, however, the rapid resolution of symptoms following discontinuation of lisinopril strongly implicates the medication as the primary cause.(2)

Interestingly, recent research has explored the potential antidepressant effects of angiotensin-converting enzyme inhibitors (ACEIs), including lisinopril. Studies in animal models have demonstrated that lisinopril may exert rapid and long-lasting antidepressant effects through mechanisms involving the bradykinin (BK) system and activation of the mammalian target of rapamycin complex 1 (mTORC1) pathway (3,4,5). This pathway is crucial for cellular growth and synaptic plasticity, which are often impaired in depression. By reversing stress-induced loss of dendritic spines through the BK system, lisinopril may theoretically alleviate depressive-like behaviors (6). However, the paradoxical antidepressant effects reported in some clinical cases, highlighting the complexity of individual responses to medications.

**References:** 1. Luo H, Wu PF, Cao Y, Jin M, Shen TT, Wang J, Huang JG, Han QQ, He JG, Deng SL, Ni L, Hu ZL, Long LH, Wang F, Chen JG. Angiotensin-Converting Enzyme Inhibitor Rapidly Ameliorates Depressive-Type Behaviors via Bradykinin-Dependent Activation of Mammalian Target of Rapamycin Complex 1. Biol Psychiatry. 2020 Sep 1;88(5):415-425. doi: 10.1016/j.biopsych.2020.02.005. Epub 2020 Feb 18. PMID: 32220499.

2. Connerney I., Shapiro PA., McLaughlin JS., Bagiella E., Sloan RP. Relation between depression after coronary artery bypass surgery and 12-month outcome: a prospective study. Lancet. 2001;358:1766–1771. doi: 10.1016/S0140-6736(01)06803-9. [DOI] [PubMed] [Google Scholar]

3. Konstam V., Moser DK., De Jong MJ. Depression and anxiety in heart failure. J Card Fail. 2005;11:455–463. doi: 10.1016/j.cardfail.2005.03.006. [DOI] [PubMed] [Google Scholar]

4. Van Melle JP., de Jonge P., Spijkerman TA., et al. Prognostic association of depression following myocardial infarction with mortality and cardiovascular events: a meta-analysis. Psychosom Med. 2004;66:814–822. doi: 10.1097/01.psy.0000146294.82810.9c. [DOI] [PubMed] [Google Scholar]

5. Gajula RP., Berlin RM. Captopril-induced mania. Am J Psychiatry. 1993;150:1429– 1430. doi: 10.1176/ajp.150.9.1429. [DOI] [PubMed] [Google Scholar][Ref list]

6. Skop BP., Masterson BJ. Mania secondary to lisinopril therapy. Psychosomatics. 1995;36:508–509. doi: 10.1016/S0033-3182(95)71637-1. [DOI] [PubMed] [Google Scholar][Ref list]



# Type of research: Case Study, Abstract 25-1-06

Title: Skinny but Suicidal: GLP-1 Receptor Agonists and Suicidal Ideation

Presenting Author: Macy Kate Petriske, MS3, UAB Heersink SOM

**Additional Author(s):** Chandler Davis, MS3; Clinton Martin MD; Anupama Yedla MD; Janaki Nimmagadda MD - UAB Heersink SOM, UAB Huntsville Department of Psychiatry

Introduction/Background: GLP-1 receptor agonists (GLP-1RAs) are increasingly popular for treating type 2 diabetes and obesity, providing significant metabolic and cardiovascular benefits. However, emerging pharmacovigilance data raise concerns regarding rare but serious neuropsychiatric side effects, particularly suicidal ideation (SI). The FDA recently issued warnings about potential mood disturbances linked to GLP-1RAs, noting reports of acute SI. Preclinical studies have indicated potential antidepressant effects of GLP-1RAs; however, clinical data remain limited, prompting concerns about their safety, especially in individuals with underlying psychiatric conditions. This case series highlights the urgent need for increased awareness and monitoring of psychiatric side effects when prescribing these medications.

**Description:** Case 1 involves a 59-year-old male with major depressive disorder, generalized anxiety disorder, and type 2 diabetes who experienced sudden-onset depression and SI immediately after his first dose of Ozempic (semaglutide) for weight loss. Despite longstanding stability on SSRIs, symptoms rapidly resolved following discontinuation of the medication.

Case 2 describes a 54-year-old male with bipolar disorder type 2 and obesity who developed severe SI with a detailed plan two weeks after initiating Zepbound (tirzepatide). Although he had a history of passive SI, he had never previously developed a concrete plan. Hospitalization led to stabilization, and symptoms resolved following cessation of tirzepatide. Both cases suggest a strong temporal relationship between GLP-1RA initiation and onset of acute psychiatric symptoms.

**Discussion and Conclusion:** GLP-1RAs effectively regulate blood glucose by enhancing insulin release, suppressing glucagon secretion, and slowing gastric emptying. However, they also cross the blood-brain barrier and influence neurotransmitter systems implicated in mood regulation, including serotonin, dopamine, and norepinephrine pathways. Alterations in neurotransmitter balance, particularly serotonin and dopamine, may predispose vulnerable individuals to mood disturbances or SI.

Additionally, the modulation of the hypothalamic-pituitary-adrenal (HPA) axis and inflammatory pathways by GLP-1RAs may further exacerbate psychiatric vulnerability.

Clinicians must carefully assess psychiatric histories prior to GLP-1RA initiation, provide thorough patient education, and proactively monitor mood symptoms. Further research, including randomized controlled trials, is essential to clarify the role of blood glucose regulation and neurotransmitter modulation in the neuropsychiatric safety profile of GLP-1RAs, ultimately guiding safer therapeutic practices.

**References:** 1. Tempia Valenta S, Nicastri A, Perazza F, et al. The Impact of GLP-1 Receptor Agonists (GLP-1 RAs) on Mental Health: A Systematic Review. Curr Treat Options Psych. 2024;11:310-357.

2. Chen X, Zhao P, Wang W, Guo L, Pan Q. The antidepressant effects of GLP-1 receptor agonists: a systematic review and meta-analysis. Am J Geriatr Psychiatry. 2024;32(1):117-127.

3. Tobaiqy M, Elkout H. Psychiatric adverse events associated with semaglutide, liraglutide, and tirzepatide: a pharmacovigilance analysis of individual case safety reports submitted to the EudraVigilance database. Int J Clin Pharm. 2024;46:488-495. doi:10.1007/s11096-023-01694-7.

4. Ueda P, Söderling J, Wintzell V, et al. GLP-1 receptor agonist use and risk of suicide death. JAMA Intern Med. 2024;184(11):1301-1312. doi:10.1001/jamainternmed.2024.4369.

5. European Medicines Agency (EMA). EMA investigates reports of suicidal ideation and self-harm with GLP-1 receptor agonists. Published July 2023.

6. U.S. Food and Drug Administration (FDA). FDA evaluating reports of suicidal thoughts or actions with GLP-1 receptor agonists. Published January 2024.

7. Schoretsanitis G, et al. Analysis of GLP-1 receptor agonist-associated suicidal ideation using WHO pharmacovigilance data. Lancet Diabetes Endocrinol. 2024;12(2):103-110.

8. López-Ojeda W, Hurley RA. Glucagon-Like Peptide 1: An Introduction and Possible Implications for Neuropsychiatry. J Neuropsychiatry Clin Neurosci. 2024;36(2):A4-86. doi:10.1176/appi.neuropsych.20230226.

9. Kim YK, Kim OY, Song J. Alleviation of depression by glucagon-like peptide 1 through the regulation of neuroinflammation, neurotransmitters, neurogenesis, and synaptic function. Front Pharmacol. 2020;11:1270. Published August 14, 2020. doi:10.3389/fphar.2020.01270.



Type of research: Case Study, Abstract 25-1-07

Title: MAT for Cocaine Use Disorder

Presenting Author: Mack Bozman, PGY2, UAB

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**Introduction/Background:** Cocaine use disorder (CUD) has high rates of relapse despite various interventions and no current FDA-approved treatments. Psychostimulants, such as dextroamphetamine, have emerged as a promising pharmacological treatment to reduce relapse and cravings in CUD. We will investigate potential treatment options for CUD and highlight a case study with a review of literature.

**Description:** Our case study focuses on a middle-aged who was diagnosed with ADHD and has been on dextroamphetamine for most of his adult life until he began using cocaine 2 years ago. He has been through multiple rehabilitation centers, support groups, and NA meetings though he has never been able to maintain sobriety from cocaine. The patient's self-reported Cocaine Craving Scale (CCS) (1) was 45 on initial visit, as high as it measures. Two week follow up after initiation of dextroamphetamine, the patient's CCS had decreased to 21 and has since helped the patient maintain sobriety. This subset of patients with CUD and co-morbid ADHD may benefit specifically from the use of dextroamphetamine, MAT.

**Discussion and Conclusion:** Dextroamphetamine, a central nervous system stimulant, has been investigated for its ability to target dopamine pathways implicated in the reinforcing effects of cocaine as well as having a beneficial effect in improving the regulation of dopamine release in the brain's reward system, leading to a reduction in cocaine-seeking behavior (2-3). A study by McCann et al. (4) demonstrated that dextroamphetamine administration reduced cocaine use and cravings in a sample of patients with CUD, particularly when combined with behavioral therapies (5).

However, the results of various trials remain mixed, with some studies suggesting minimal benefit, and concerns over the potential for misuse of stimulant medications in this population (6). Nevertheless, dextroamphetamine continues to be investigated as part of the broader effort to develop effective treatments for CUD, particularly in combination with psychotherapies targeting addiction behaviors. Currently there are no FDA approved treatments for CUD. Dextroamphetamine shows promise as a potential pharmacological option for preventing relapses and cravings in certain

subsets of individuals with CUD. Clinicians must weigh the risks of stimulant misuse with the potential therapeutic benefits in the context of a comprehensive treatment approach.

**References:** 1. Weiss RD, Griffin ML, Hufford C, Muenz LR, Najavits LM, Jansson SB, Kogan J, Thompson HJ. Early prediction of initiation of abstinence from cocaine. Use of a craving questionnaire. Am. J. Addict. 1997;6:224–231.

2. • Mendelson, J. H., et al. (2006). The effects of amphetamine and methylphenidate on cocaine self-administration in humans. J Psychopharmacol, 20(6), 783-793. https://doi.org/10.1177/0269881106061093

3. • Shoptaw, S., et al. (2006). The efficacy of stimulant medications for the treatment of cocaine dependence: A review of the literature. J Subst Abuse Treat, 31(3), 279-285. https://doi.org/10.1016/j.jsat.2006.04.004

• 4. McCann, M. L., et al. (2020). Dextroamphetamine and the treatment of cocaine dependence: A randomized, placebo-controlled trial. PLoS One, 15(5), e0234809. https://doi.org/10.1371/journal.pone.0234809

5. • Haney, M., et al. (2009). Cocaine self-administration and craving reduction with dextroamphetamine. Am J Psychiatry, 166(11), 1256-1261. https://doi.org/10.1176/appi.ajp.2009.09010116

6. • Kampman, K. M., et al. (2007). The pharmacotherapy of cocaine dependence. Substance Use & Misuse, 42(11), 1691-1705. https://doi.org/10.1080/10826080701420290



## Type of research: Case Study, Abstract 25-1-08

Title: The Therapeutic Promise of Ketamine in Depression: A Case Report

**Presenting Author:** Renee Abernathy, MS-3, University of Alabama-Birmingham Heersink School of Medicine Huntsville Regional Campus

Additional Author(s): Clinton Martin MD, Janaki Nimmagadda MD, Anupama Yedla MD, Department of Clinical Psychiatry UAB School of Medicine Huntsville Campus

Introduction/Background: Ketamine's traditional role in medicine is its use as an anesthetic and analgesic. Ketamine has various mechanisms of action including an NMDA antagonist on GABAergic interneurons, AMPA receptor activation, mammalian target of rapamycin (mTOR) signaling pathway activation, and inhibition of eukaryotic elongation factor 2 (eEF2) kinase which enhances brain-derived neurotrophic factor (BDNF) levels. The combination of these actions creates a net process of enhancing excitatory neurotransmission and synaptogenesis. Understanding Ketamine's mechanisms of action extends its usage beyond anesthesia and analgesia, postulating its potential in neuropsychiatric medicine.

**Description:** The patient is a 61-year-old female with treatment-resistant depression that improved while participating in an esketamine trial. She was diagnosed with major depression disorder at the age of 24. Her symptoms include a persistently depressed mood, anhedonia, feelings of hopelessness, low energy levels, decreased appetite, insomnia, and suicidal ideation. At times, her symptoms are so severe that she is unable to perform her activities of daily living for up to 5 days. The patient has failed numerous medications including fluoxetine, escitalopram, citalopram, venlafaxine, duloxetine, aripiprazole, and lamotrigine.

After failing multiple medication trials, the patient was enrolled in an esketamine trial. She received intranasal esketamine once or twice a week, in addition to daily antidepressant medication. Each dose of esketamine was administered in the clinic, where she remained under close monitoring for 2 hours. During the trial, she endorsed improved mood, increased energy levels, and decreased suicidal ideation. However, after 4 months, she experienced suprapubic pain, increased urinary frequency, and dysuria. The patient was diagnosed with interstitial cystitis, and subsequently ended the esketamine trial early, despite significant improvement in her depressive symptoms. Currently, the patient is taking Fluoxetine after a failed trial of Cariprazine, with worsened depressive symptoms. **Discussion and Conclusion:** Traditional antidepressants usually have delayed efficacy and also leave some patients treatment-resistant. In contrast, ketamine offers a rapid and powerful effect in treating depression and suicidality, making it a breakthrough in managing psychiatric emergencies. Ketamine and its derivative, esketamine, have shown reductions in treatment-resistant depression and suicidal ideation within hours of administration. These effects begin within 24 hours and can last up to one week after a single dose. However, repeated doses or ongoing treatment are necessary to sustain these benefits. Despite its effectiveness, ketamine has numerous notable side effects, including dissociation, nausea, vomiting, transient increases in heart rate and blood pressure, and a potential for addiction and abuse. Also, it must be administered in a clinical setting with close monitoring. Furthermore, the long-term effects of ketamine and esketamine as antidepressant therapies require more research. Current research is limited by small sample sizes and short follow-up duration. Additionally, further exploration of ketamine's mechanisms of action is crucial for developing safer alternatives that maintain its rapid effects.

**References:** 1. Duman, Ronald S. et al. Signaling pathways underlying the rapid antidepressants actions of ketamine. Neuropharmacology, Volume 62, Issue 1, 35-41.

2. Siegel, Ashley N. et al. Antisuicidal and antidepressant effects of ketamine and esketamine in patients with baseline suicidality: A systematic review. Journal of Psychiatric Research, Volume 137, 426-436.



## Type of research: Original Research, Abstract 25-1-09

**Title:** Description of an Emergency Department-based Peer Model for Patients with Substance Use Disorder

**Presenting Author:** Rohit Chaparala, Senior Research Staff/Clinical Research Coordinator (applying to medical school), University of Alabama at Birmingham Heersink School of Medicine

Additional Author(s): Li Li, MD, PhD, Lauren Walter, MD, MSPH, FACEP, William Miller, MD

**Introduction/Background:** Rates of emergency department (ED) visits for substance use disorders (SUD) continue to increase. Peer Support Specialists (Peers) can be a valuable addition to the recovery plan for persons impacted by SUD. Incorporation of Peers into the ED setting specifically has not been previously extensively described.

**Methods:** A 16-hour in-person daily Peer coverage model was implemented at an urban, academic ED. Peers were prompted for patient engagement via consult from the clinical or social work team and/or via a triage-based universal SUD screener. Peer-patient touchpoint data was considered over 12-months (July, 2023 through June, 2024). Basic patient demographics, reason for Peer consult/engagement, Peer services provided, and ED 30-day recidivism rates were collected. Descriptive and chi-square analyses were performed.

**Results:** ED Peers recorded 1269 interactions with 1063 unique patients. The majority of patients were male (66.1%), white (60.1%), between the ages of 25-44 (57.3%), and self-pay (40.6%). Nearly a quarter (23.7%) were experiencing homelessness. Opioid misuse was the most common (32.6%) cited reason for Peer engagement, followed by alcohol misuse (20.7%) and stimulant misuse (11.6%). Peers provided a variety of care and services, most frequently 'shared life experience' (77.1%) followed by 'provision of resources (local) specific to recovery' (59.9%), 'provision of personal contact information with anticipation of future contact' (55.8%), and 'provision' of resources (local) specific to social needs' (52.6%). In total, 379 (29.9%) of Peer-engaged patients returned to the ED within 30 days of initial visit. Patients with private insurance (26.6%; p <.05) and those admitted to the hospital (22.0%); p <.00001) were less likely to return to the ED while patients experiencing homelessness (43.0%; p <.00001) or concomitantly impacted by other non-SUD DSM-V diagnoses (38.8%; p <.00001) were more likely to demonstrate recidivism. Patient with whom Peers shared

personal contact information for anticipated future contact were also more likely to return to the ED (p <.05).

**Discussion and Conclusion:** Peers can be integrated into the ED setting to assist in the care and management of persons with SUD. Peer-engaged ED patients represent a particularly vulnerable cohort disproportionately impacted by concomitant psychiatric illness and negative social determinants of health.

# **References:**

1. Atlam, D., & Coskunol, H. (2022). The most severe stigma: Stigma toward substance use disorder. Addicta: Turkish J Addictions, 9(1), 99-105. 2. Avalone, L., Lalane, M., King, C., Pfeiffer, K., Linn-Walton, R., & Barron, C. (2024). Integrating substance use peer support and screening brief intervention and referral to treatment services in the emergency department: a descriptive study of the ED leads program. Addiction science & clinical practice, 19(1), 15. https://doi.org/10.1186/s13722-024-00445-x 3. Cho, H. E., Wang, L., Chen, J. S., Liu, M., Kuo, C. F., & Chung, K. C. (2019). Investigating the causal effect of socioeconomic status on quality of care under a universal health insurance system - a marginal structural model approach. BMC health services research, 19(1), 987. https://doi.org/10.1186/s12913-019-4793-7 4. David, A. R., Sian, C. R., Gebel, C. M., Linas, B. P., Samet, J. H., Sprague Martinez, L. S., Muroff, J., Bernstein, J. A., & Assoumou, S. A. (2022). Barriers to accessing treatment for substance use after inpatient managed withdrawal (Detox): A qualitative study. Journal of substance abuse treatment, 142, 108870. https://doi.org/10.1016/j.jsat.2022.108870 5. Eddie, D., Hoffman, L., Vilsaint, C., Abry, A., Bergman, B., Hoeppner, B., Weinstein, C., & Kelly, J. F. (2019). Lived experience in new models of care for substance use disorder: A systematic review of Peer Recovery Support Services and recovery coaching. Frontiers in Psychology, 10. https://doi.org/10.3389/fpsyg.2019.01052 6. Gaiser, M. G., Buche, J. L., Wayment, C. C., Schoebel, V., Smith, J. E., Chapman, S. A., & Beck, A. J. (2021). A Systematic Review of the Roles and Contributions of Peer Providers in the Behavioral Health Workforce. American journal of preventive medicine, 61(4), e203-e210. https://doi.org/10.1016/j.amepre.2021.03.025 7. lbbett, H., Dorward, L. J., Kohi, E. M., Jones, J. P. G., Sankeni, S., Kaduma, J., Mchomvu, J., Mawenya, R., & St John, F. A. V. (2023). Topic sensitivity still affects honest responding, even when specialized questioning techniques are used. Conservation science and practice, 5(6), csp2.12927. https://doi.org/10.1111/csp2.12927 8. Jacka, B. P., Ziobrowski, H. N., Lawrence, A., Baird, J., Wentz, A. E., Marshall, B. D. L., Wightman, R. S., Mello, M. J., Beaudoin, F. L., & Samuels, E. A. (2022). Implementation and maintenance of an emergency department naloxone distribution and peer recovery specialist program. Academic emergency medicine : official journal of the Society for Academic Emergency Medicine, 29(3), 294–307. https://doi.org/10.1111/acem.14409 9. Kuek, J. H. L., Chua, H. C., & Poremski, D. (2021). Barriers and facilitators of peer support work in a large psychiatric hospital: a thematic analysis. General psychiatry, 34(3), e100521. https://doi.org/10.1136/gpsych-2021-100521 10. Manhica, H., Straatmann, V. S., Lundin, A., Agardh, E., & Danielsson, A. K. (2021). Association between poverty exposure during childhood and adolescence, and drug use disorders and drugrelated crimes later in life. Addiction (Abingdon, England), 116(7), 1747–1756. https://doi.org/10.1111/add.15336 11. Mental Health America. (2019). Evidence for peer support. https://www.mhanational.org/sites/default/files/Evidence for Peer Support May 2019.pdf 12. McNeely, J., Schatz, D., Olfson, M., Appleton, N., & Williams, A. R. (2022). How physician workforce shortages are hampering the response to the opioid crisis. Psychiatric Services, 73(5), 547-554. https://doi.org/10.1176/appi.ps.202000565 13. Pagano, A., Hosakote, S., Kapiteni, K., Straus, E. R., Wong, J., & Guydish, J. R. (2021). Impacts of COVID-19 on residential treatment programs for substance use disorder. Journal of substance abuse treatment, 123, 108255. https://doi.org/10.1016/j.jsat.2020.108255 14. Park, S. E., Mosley, J. E., Grogan, C. M., Pollack, H. A., Humphreys, K., D'Aunno, T., & Friedmann, P. D. (2020). Patient-centered care's relationship with substance use disorder treatment utilization. Journal of substance abuse treatment, 118, 108125. https://doi.org/10.1016/j.jsat.2020.108125 15. Patrick, M. E., Wightman, P., Schoeni, R. F., & Schulenberg, J. E. (2012). Socioeconomic status and substance use among young adults: a comparison across constructs and drugs. Journal of studies on alcohol and drugs, 73(5), 772-782. https://doi.org/10.15288/jsad.2012.73.772 16. Pepper D. (2023). The Entanglements of Substance Use Disorders and Emergency Departments. Focus (American Psychiatric Publishing), 21(1), 52–53. https://doi.org/10.1176/appi.focus.20220075 17. Samuels E. (2014). Emergency department naloxone distribution: a Rhode Island department of health, recovery community, and emergency department partnership to reduce opioid overdose deaths. Rhode Island medical journal (2013), 97(10), 38-39. 18. Smith, P. C., Schmidt, S. M., Allensworth-Davies, D., & Saitz, R. (2010). A single-question screening test for drug use in primary care. Archives of internal medicine, 170(13), 1155–1160. https://doi.org/10.1001/archinternmed.2010.140 19. Substance Abuse and Mental Health Services Administration (US). (2023) Incorporating Peer Support Into Substance Use Disorder Treatment Services, Treatment Improvement Protocol (TIP) Series, No. 64. Chapter 1—Introduction to Peer Support Services for People With Substance Use-Related Problems. https://www.ncbi.nlm.nih.gov/books/NBK596266/ 20. Theriault, K. M., Rosenheck, R. A., & Rhee, T. G. (2020). Increasing Emergency Department Visits for Mental Health Conditions in the United States. The Journal of clinical psychiatry, 81(5), 20m13241. https://doi.org/10.4088/JCP.20m13241 21. Tracy, K., & Wallace, S. P. (2016). Benefits of peer support groups in the treatment of addiction. Substance abuse and rehabilitation, 7, 143–154. https://doi.org/10.2147/SAR.S81535 22. Watson,

D. P., Weathers, T., McGuire, A., Cohen, A., Huynh, P., Bowes, C., O'Donnell, D., Brucker, K., & Gupta, S. (2021). Evaluation of an emergency department-based opioid overdose survivor intervention: Difference-in-difference analysis of electronic health record data to assess key outcomes. Drug and alcohol dependence, 221, 108595. https://doi.org/10.1016/j.drugalcdep.2021.108595



## Type of research: Case Study, Abstract 25-1-10

Title: Aripiprazole and Risperidone induced Leukopenia in an eleven year old

Presenting Author: Anusha Chintapalli, PGY2, North Alabama Medical Center

Additional Author(s): Kripa Shresta, PGY2 North Alabama Medical center; Shanthi Gatla, MD North Alabama Medical center; Praveen Narahari, MD North Alabama Medical center

**Introduction/Background:** Aripiprazole and risperidone are atypical antipsychotics, which are widely used in children and adolescents for various psychiatric disorders including schizophrenia, bipolar mania, irritability associated with autism [4,5] and disruptive behavior disorders [6]. Common side effects of antipsychotics include sedation, nausea, vomiting, and weight gain [3]. However, a rarer but potentially severe side effect is leukopenia, which, in extreme cases, can be life-threatening [2].

**Description:** An 11-year-old African American male with a history of ADHD, Disruptive mood dysregulation disorder, and Insomnia was initiated on aripiprazole for aggression in an outpatient setting. Two months later, he was hospitalized for anger outbursts, and aripiprazole was continued. At admission, his baseline white blood cell (WBC) count was low at 4.32 × 10<sup>9</sup>/L. He was discharged on aripiprazole 2.5 mg BID.

During outpatient follow-up, aripiprazole was discontinued, and alternative medications were trialed. Five months later, he was hospitalized for increased aggression and started on risperidone (0.25 mg AM, 0.5 mg HS). His baseline WBC count was normal at 5.47 × 10°/L.

Subsequent outpatient labs showed a decreased WBC count of  $4.2 \times 10^{9}$ /L. Risperidone was tapered to address leukopenia, with plans for repeat labs in four weeks. However, he was hospitalized again a month later for increased aggression. Upon admission, baseline labs were normal, including a WBC count of  $6.33 \times 10^{9}$ /L. During this hospitalization, cariprazine 1.5 mg daily was initiated. He was discharged with plans for outpatient psychiatric follow-up.

**Discussion and Conclusion:** Leukopenia has been observed with antipsychotics like aripiprazole and risperidone, even at low doses. Given the patient's history of antipsychotic-induced leukopenia, regular WBC monitoring is essential during cariprazine treatment. Risk factors include genetic susceptibility [1], pre-existing low WBC counts, and a history of drug-induced leukopenia [5]. Patients with these risk factors should undergo close WBC monitoring when using newer antipsychotics [1]. If a significant WBC drop occurs without other identifiable causes, discontinuation of the antipsychotic should be considered [4]. Management of antipsychotic-induced neutropenia may involve stopping the offending drug and considering treatments like lithium to stimulate WBC production [1].

**References:** 1. Qureshi SU, Rubin E. Risperidone- and aripiprazole-induced leukopenia: a case report. Prim Care Companion J Clin Psychiatry. 2008;10(6):482-3. doi: 10.4088/pcc.v10n0612c. PMID: 19287562; PMCID: PMC2644464.

2. Majeed MH, Ali AA. Aripiprazole-Induced Neutropenia in a Seven-Year-Old Male: A Case Report. Cureus. 2017 Aug 11;9(8):e1561. doi: 10.7759/cureus.1561. PMID: 29034139; PMCID: PMC5638655.

3. https://www.uptodate.com/contents/pediatric-mania-and-second-generationantipsychotics-efficacy-administration-and-side-

effects?search=abilify%20side%20effects&sectionRank=1&usage\_type=default&anchor =H107239042&source=machineLearning&selectedTitle=2%7E150&display\_rank=2#H1072 39042

4.https://www.accessdata.fda.gov/drugsatfda\_docs/label/2014/021436s038,021713s03 0,021729s022,021866s023lbl.pdf

5. https://www.accessdata.fda.gov/drugsatfda\_docs/label/2010/020588s046lbl.pdf

6. Loy JH, Merry SN, Hetrick SE, Stasiak K. Atypical antipsychotics for disruptive behaviour disorders in children and youths. Cochrane Database Syst Rev. 2017 Aug 9;8(8):CD008559. doi: 10.1002/14651858.CD008559.pub3. PMID: 28791693; PMCID: PMC6483473.



## Type of research: Case Study, Abstract 25-1-11

**Title:** Polydipsia with Hyponatremia as a Presenting Symptom for a Patient Experiencing his First Psychotic Episode

Presenting Author: Emma Cao, PGY-1, UAB Heersink SOM

Additional Author(s): 1Emma E. Cao, 1,2Galina Ostrovsky, 3Bradley Burk,4 Rachel E. Fargason, 5 Badari Birur

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Introduction/Background: Polydipsia, characterized by excessive thirst and fluid consumption, is a well-known condition seen in patients with schizophrenia. This condition can lead to a profound, life-threatening hyponatremia. Several studies have assessed pharmacotherapeutic treatments for chronic polydipsia associated with schizophrenia, with clozapine being the most promising, although it has been shown to be difficult to treat. While polydipsia has been described in patients with severe, chronic schizophrenia, little data have been published regarding its' presence during the early stages of psychotic disorders. Here we present a patient with First Episode Psychosis (FEP) accompanied by severe hyponatremia secondary to polydipsia.

**Description:** A 21-year-old black male with no previous psychiatric history was admitted to our inpatient psychiatry unit for management of suspected FEP. On admission, the patient's sodium was 132 mMol/L, presumably due to patient-reported fasting prior to admission. On the fourth day of his hospitalization, repeat labs showed a sodium level of 126 mMol/L. The patient endorsed drinking over 4 liters of water a day. He was placed on fluid restriction, although patient was resistant and continued to drink from other sources, such as his shower. The patient was started on risperidone 2mg PO, with resulting improvements in both psychotic symptoms and polydipsia. Prior to discharge, his sodium stabilized to 140 mMol/L, and patient verbalized understanding of limiting water intake. Three months later, patient was admitted to the medical ICU due to critically low sodium of 112 mMol/L. The patient endorsed drinking 4 gallons of water a day with little insight into his behaviors. He had been noncompliant with the risperidone at time of this admission and was transferred to an outside psychiatric facility following medical stabilization.

**Discussion and Conclusion:** Polydipsia is a potentially life-threatening condition associated with schizophrenia. While typically associated with severe chronic schizophrenia, it is important to evaluate in first-episode patients. Further research will be important in assessing how presence and age of onset of polydipsia may affect prognosis of schizophrenia. Continued studies looking at pharmacotherapy for polydipsia will also be beneficial to help prevent poor health outcomes associated with hyponatremia.

**References:** 1. Alexander, R. C., Karp, B. I., Thompson, S., Khot, V., & Kirch, D. G. (1991). A double blind, placebo-controlled trial of demeclocycline treatment of polydipsiahyponatremia in chronically psychotic patients. Biological psychiatry, 30(4), 417–420. https://doi.org/10.1016/0006-3223(91)90300-b

2. Becker, J. A., Goldman, M. B., Alam, M. Y., & Luchins, D. J. (1995). Effects of naltrexone on mannerisms and water imbalance in polydipsic schizophrenics: a pilot study. Schizophrenia Research, 17(3), 279-282. https://doi.org/10.1016/0920-9964(95)00011-9

3. Canuso, C. M., & Goldman, M. B. (1996). Does minimizing neuroleptic dosage influence hyponatremia?. Psychiatry research, 63(2-3), 227–229. https://doi.org/10.1016/0165-1781(96)02793-x

4. de Leon, J., Dadvand, M., Canuso, C., Odom-White, A., Stanilla, J., & Simpson, G. M. (1996). Polydipsia and water intoxication in a long-term psychiatric hospital. Biological psychiatry, 40(1), 28–34. https://doi.org/10.1016/0006-3223(95)00353-3

5. de Leon, J., Verghese, C., Tracy, J. I., Josiassen, R. C., & Simpson, G. M. (1994). Polydipsia and water intoxication in psychiatric patients: a review of the epidemiological literature. Biological psychiatry, 35(6), 408–419. https://doi.org/10.1016/0006-3223(94)90008-6

6. Delva, N.J., Chang, A., Hawken, E., Lawson, J.S., & Owen, J.A. (2002). Effects of clonidine in schizophrenic patients with primary polydipsia Three single case studies. Progress in Neuro-Psychopharmacology and Biological Psychiatry, 26, 387-392.

7. Kruse, D., Pantelis, C., Rudd, R., Quek, J., Herbert, P., & McKinley, M. (2001). Treatment of psychogenic polydipsia: comparison of risperidone and olanzapine, and the effects of an adjunctive angiotensin-II receptor blocking drug (irbesartan). The Australian and New Zealand journal of psychiatry, 35(1), 65–68. https://doi.org/10.1046/j.1440-1614.2001.00847.x

8. Nishikawa, T., Tsuda, A., Tanaka, M., Nishikawa, M., Koga, I., & Uchida, Y. (1994). Naloxone attenuates drinking behavior in psychiatric patients displaying self-induced water intoxication. Progress in neuro-psychopharmacology & biological psychiatry, 18(1), 149–153. https://doi.org/10.1016/0278-5846(94)90031-0

9. Sebastian, C. S., & Bernardin, A. S. (1990). Comparison of enalapril and captopril in the management of self-induced water intoxication. Biological psychiatry, 27(7), 787–790. https://doi.org/10.1016/0006-3223(90)90594-r

02. Shanmugalingam, D.A. (2022). Use of Clozapine to treat Psychogenic Polydipsia in schizoaffective disorder - A Case Report. Psychiatry Research Case Reports.

11. Verghese, C., de Leon, J., & Josiassen, R. C. (1996). Problems and progress in the diagnosis and treatment of polydipsia and hyponatremia. Schizophrenia bulletin, 22(3), 455–464. https://doi.org/10.1093/schbul/22.3.455

12. Vieweg, W. V. R., David, J. J., Rowe, W. T., Peach, M. J., Veldhuis, J. D., Kaiser, D. L., & Spradlin, W. W. (1985). Psychogenic polydipsia and water intoxication: Concepts that have failed. Biological Psychiatry, 20(12), 1308–1320. https://doi.org/10.1016/0006-3223(85)90116-7



## Type of research: Case Study, Abstract 25-1-12

Title: Dextromethorphan, a New Tool for Fighting Depression

**Presenting Author:** Ethan Wainblat, PGY3, North Alabama Medical Center, Department of Psychiatry

Additional Author(s): Humna Ellahi, PGY-3; Praveen Narahari, MD, Program Director, North Alabama Medical Center, Department of Psychiatry

**Introduction/Background:** Major depressive disorder (MDD) is currently estimated to affect 23.5% of the Alabama population and 18.4% of the U.S. population [1]. Since monoamine was hypothesized in the 1950s, different classes of medications are used for depression, including MAOIs, TCAs, SSRIs, SNRIs, atypical antidepressants including bupropion, mirtazapine, vortioxetine, and adjuncts from atypical antipsychotics like aripiprazole and quetiapine [2]. These target neurotransmitters, including serotonin, dopamine, and norepinephrine. Recently, drugs that focused on NMDA receptor antagonists, including ketamine and dextromethorphan, have been considered for treating depression [3, 4]. The medications affect factors that cause synaptogenesis in the hippocampus and prefrontal cortex, causing a rapid response rate which is a challenge with other antidepressants [5].

**Description:** Ms. M is a 42-year-old female with severe MDD, prior self-harm and three suicide attempts, general anxiety disorder, cerebral vascular accident, and status epilepticus. The patient had one admission to the acute care psychiatric unit in August 2020 after her suicide attempt via overdose. The patient was again admitted to our mental health crisis unit with worsening depression for the last three weeks.

The patient was previously trialed on bupropion and cariprazine, which were discontinued due to side effects, including seizures and akathisia, respectively. She was also on duloxetine recently. Ms. M started dextromethorphan-quinidine tablets during her admission and was discharged home within five days with improvement in her mood symptoms. The PHQ-9 before dextromethorphan-quinidine was 23 and one week after the discharge was decreased to 3.

**Discussion and Conclusion:** An increase in cortical glutamate has been implicated in depression. Hence, dextromethorphan, an NMDA receptor antagonist, decreases the level of cortical glutamate and helps with depressive symptoms [6]. In cases with severe or difficult-to-treat depression, it is important to look at the different medications, their

mechanisms of action, and the time to treat the patient. Most of the treatments can take up to six to eight weeks to see the full effect [7], while it is shown that dextromethorphan can start to show benefits within one to six weeks [8].

**References:** 1. Lee B, Wang Y, Carlson SA, et al. National, State-Level, and County-Level Prevalence Estimates of Adults Aged ≥18 Years Self-Reporting a Lifetime Diagnosis of Depression — United States, 2020. MMWR Morb Mortal Wkly Rep 2023;72:644–650. DOI: http://dx.doi.org/10.15585/mmwr.mm7224a1.

2. Hillhouse, T. M., & Porter, J. H. (2015). A brief history of the development of antidepressant drugs: from monoamines to glutamate. Experimental and clinical psychopharmacology, 23(1), 1.

3. Pereira, V. S., & Hiroaki-Sato, V. A. (2018). A brief history of antidepressant drug development: from tricyclics to beyond ketamine. Acta neuropsychiatrica, 30(6), 307-322.

4. Majeed, A., Xiong, J., Teopiz, K. M., Ng, J., Ho, R., Rosenblat, J. D., ... & McIntyre, R. S. (2021). Efficacy of dextromethorphan for the treatment of depression: a systematic review of preclinical and clinical trials. Expert opinion on emerging drugs, 26(1), 63-74.

5. Duman, R. S., & Li, N. (2012). A neurotrophic hypothesis of depression: role of synaptogenesis in the actions of NMDA receptor antagonists. Philosophical Transactions of the Royal Society B: Biological Sciences, 367(1601), 2475-2484.

6. Lapidus KA, Soleimani L, Murrough JW. Novel glutamatergic drugs for the treatment of mood disorders. Neuropsychiatr Dis Treat. 2013;9:1101-12. doi: 10.2147/NDT.S36689. Epub 2013 Aug 7. PMID: 23976856; PMCID: PMC3747027.

7. Donovan SJ, Quitkin FM, Stewart JW, et al. Duration of antidepressant trials: clinical and research implications. J Clin Psychopharmacol. 1994;14:64–66.

8. Brooks, M. FDA Approves "Rapid-Acting" Oral Drug for Major Depression.



# Type of research: Original Research, Abstract 25-1-13

**Title:** An opportunity to prevent human trafficking and serve foreign-born survivors through collaboration between mental health providers and immigration lawyers

Presenting Author: Kavina Jani, PGY3, University of Alabama at Birmingham

Additional Author(s): Cassie Wicken, M.D., M.H.S., Kavina Jani, M.D., Mathew Macaluso, D.O., Rebecca Rampe, Psy.D., Rachel Fargason, M.D., Elizabeth Brezovich, M.S.W., M.D.S., Kristine Pike, M.A., CCRC, LPC, NCC, Wendy Russell Peek, MSW, LICSW-S, PIP, Luke Frazier, Esq.

Introduction/Background: Human trafficking is a public health crisis and an egregious human rights violation. Members of the non-permanent resident, non-US citizen (NPNU) population are particularly vulnerable to becoming victims of human trafficking. Human trafficking victimization is associated with high rates of psychiatric conditions such as Major Depressive Disorder and PTSD. Fear, especially fear of deportation, is a major barrier to NPNUs engaging with mental health and other service providers. Engaging with mental health providers carries stigma which further deters trauma survivors from seeking care. Research and interdisciplinary strategies for identifying and linking NPNU trafficking victims to mental health and other services are urgently needed.

**Methods:** This is a retrospective observational study of a mental health need identification and referral pipeline for human trafficking survivors utilizing immigration law firms in Maryland and Alabama. Two immigration law firms screened NPNUs seeking legal consultation for human trafficking. Lawyers advised identified survivors of their potential eligibility for a T Visa (a lawful immigration status and pathway to lawful permanent residency), screened survivors for unmet mental health needs, linked survivors to psychotherapy, helped survivors report their trafficking to law enforcement, and helped survivors apply for T Visas.

**Results:** Twelve NPNU individuals were identified for the first time by a service provider as having a history of being trafficked, when they presented for immigration legal services while living in Maryland from 2017 and 2024 (8) or Alabama from September to December 2024 (4). Each of the seven individuals who completed T Visa applications had unmet mental health needs and were successfully linked to longitudinal psychotherapy. Each of the T Visa applications whose outcome is known to the authors (6) was approved.

**Discussion and Conclusion:** Immigration law firms are ideally situated to identify and link trafficking survivors to mental health care while also improving legal statuses. Drawing from this research, our interdisciplinary team discusses how immigration law offices, mental health providers and community organizations in Alabama can collaborate to prevent human trafficking and identify and serve foreign-born survivors.

# **References:**

Chakoian, K., Sethi, S., & Santos, J. (2021). Trauma-Informed Practice in the Field: Recommendations for Human Trafficking Service Providers. Retrieved from https://www.ojp.gov/library/publications/trauma-informed-practice-fieldrecommendations-human-trafficking-service Eyerman, J., Labriola, M., & González, B. (2023). Current and Future Research on Labor Trafficking in the United States. Retrieved from https://www.rand.org/pubs/research\_reports/RRA1681-1.html Gordon, M., Evenstad, J., Nathani, K., Coverdale, J., & Nguyen, P. (2024). Neuropsychiatric Vulnerabilities and Sequelae of Human Trafficking in the United States. The Journal of Neuropsychiatry and Clinical Neurosciences, appineuropsych20240175. https://doi.org/10.1176/appi.neuropsych.20240175 Moncrieffe, M. (2023). Specialized care for immigrants experiencing trauma is vital. Psychologists are breaking down the mental health barriers. Monitor on Psychology, 54(8). Retrieved from https://www.apa.org/monitor/2023/11/immigrant-mental-health Salami', T., Gordon, M., Babu, J., Coverdale, J., & Nguyen, P. T. (2021). Treatment considerations for foreign-born victims of human trafficking: Practical applications of an ecological framework. Transcultural Psychiatry, 58(2), 293–306. https://doi.org/10.1177/1363461520983950



## Type of research: Case Study, Abstract 25-1-14

Title: Admitting Guilt in Adult Outpatient Settings: Navigating Ethical Dilemmas

Presenting Author: Shyla Hossain, PGY3, University of South Alabama

Additional Author(s): J. Christopher Buckley (Tulane University SOM, USA-COM)

Introduction/Background: Multiple legal cases in the literature have long established guidelines for disclosing potential criminal acts when brought up in confidential settings such as a physician's or therapist's office. Classically, the Tarasoff case established a duty to warn in cases of impending danger to others. However, after a criminal act, offenders are known to experience trauma responses or depression, especially in cases of homicide. In these scenarios, guidance regarding the clinician's role in treatment and documentation of disorders secondary to criminal acts is limited. This poster aims to discuss the ethical implications of documentation admissions of guilt.

**Description:** A 59-year-old black male presented to the resident outpatient clinic in September 2024 due to anxiety, depression, and insomnia, despite a trial of Quetiapine 25mg QHS per his PCP. Medical history was significant for hypertension, high cholesterol, and diabetes. During initial evaluation, patient revealed that his symptoms began 4 months ago, after killing his best friend via gunshot after a verbal argument. Patient admitted guilt and expressed remorse, contributing to his symptoms of depression, PTSD, and increase in alcohol use. Patient has a history of domestic violence, DUIs, and drug use decades before recent fatal altercation, and had a grand jury trial pending at the time of evaluation. Patient and wife disclosed that psychiatric evaluation was not requested or required per the court and they were seeking services voluntarily due to severity of patient's symptoms.

**Discussion and Conclusion:** This case presents an unusual situation in which a criminal act was openly disclosed, placing the provider in a position of determining how much of the crime should be documented in a medical record. Importantly, perpetrators of violent crimes do experience psychiatric conditions secondary to their own acts, most commonly PTSD and depression. These are further influenced by additional stressors of the legal process. Although prior legal cases have established the confidentiality of medical and therapeutic notes, the literature is oddly silent on the clinical, ethical, and legal implications of documenting admissions of guilt in the medical record.

**References:** - Appelbaum, P. S., & Meisel, A. (1986). Bull Am Acad Psychiatry Law, 14(3), 221–230.

- Goldman, M. J., & Gutheil, T. G. (1994). Bull Am Acad Psychiatry Law, 22(3), 407-410.

- Rew, G., Clark, L., & Rogers, G. (2022). Journal of EMDR Practice and Research, 16(4), 228-238



Type of research: Case Study, Abstract 25-1-15

Title: Treatment of ADHD with Concurrent Cannabis Use Disorder

Presenting Author: Jeanetta Malone, PGY-4, USA Whiddon College of Medicine

Additional Author(s): Miranda Crowell MD, PGY-3 USA Whiddon College of Medicine; Marianne Saitz, D.O. USA Whiddon College of Medicine Faculty

Introduction/Background: Cannabis is the one of the most common substances used worldwide. In 2022, the United Nations estimated approximately 228 million users of cannabis across the world.5 Additionally, nearly 10% of regular users of cannabis were shown to develop cannabis use disorder. 5 Cannabis use disorder has been associated with higher rates of comorbid psychiatric illness. 3 This becomes especially problematic when attempting to diagnose and treat ADHD. Especially when taken into consideration that patients with ADHD may be more likely to use cannabis at triple the rate compared to populations without ADHD. 1 Below we discuss the case of a patient who presented for ADHD treatment in the context of chronic cannabis use with established cannabis use disorder.

**Description:** Mr. R is a 45 year old male who presented to the outpatient psychiatry clinic for a new patient evaluation ADHD. Upon initial evaluation, patient endorsed symptoms consistent with a diagnosis of MDD including persistent depression, anhedonia, impaired concentration, increased appetite, feelings of worthlessness, and passive death wish. He also endorsed chronic cannabis use with history of increased tolerance over time, withdrawal symptoms and cravings with abstinence, and continued use despite adverse physiological effects. He had previously received treatment for a diagnosis of ADHD in the military with Adderall XR. Patient was prescribed escitalopram to target mood symptoms however impairments in concentration and attention persisted after resolution of other affective symptoms. Patient was trialed on atomoxetine and viloxazine with minimal effectiveness. There were multiple discussions with the patient regarding concern of cannabis use throughout his time with the clinic. Patient was unfortunately later lost to follow-up due to moving away from the practice.

**Discussion and Conclusion:** The relationship between cannabis use disorder and ADHD is unclear. There is some evidence that suggests chronic cannabis use can lead to decreases in cognitive performance, attention ,and memory.2 Further studies have

shown concern for anatomical changes in the brain including decreased hippocampal volume. 4 Further research is necessary to fully understand the relationship between ADHD and cannabis use disorder to be able to adequately treat this patient population.

**References:** 1. Boehnke K. F., McAfee J., Ackerman J. M., Kruger D. J. (2021). Medication and substance use increases among people using cannabis medically during the COVID-19 pandemic. International Journal of Drug Policy, 92, 103053. https://doi.org/10.1016/j.drugpo.2020.103053

2. Figueiredo PR, Tolomeo S, Steele JD & Baldacchino A Neurocognitive consequences of chronic cannabis use: a systematic review and meta-analysis. Neurosci. Biobehav. Rev. 108, 358–369 (2020). [PubMed: 31715191]

3. Hasin DS et al. Prevalence and correlates of DSM-5 cannabis use disorder, 2012–2013: findings from the National Epidemiologic Survey on Alcohol and Related Conditions–III. Am. J. Psychiatry 173, 588–599 (2016). [PubMed: 26940807]

4. Meier MH, Caspi A, R Knodt A, Hall W, Ambler A, Harrington H, Hogan S, M Houts R, Poulton R, Ramrakha S, Hariri AR, Moffitt TE. Long-Term Cannabis Use and Cognitive Reserves and Hippocampal Volume in Midlife. Am J Psychiatry. 2022 May;179(5):362-374. doi: 10.1176/appi.ajp.2021.21060664. Epub 2022 Mar 8. PMID: 35255711; PMCID: PMC9426660.

5. World Drug Report 2024 - Drug Market Patterns and trends (2022) United Nations : Office on Drugs and Crime. Available at: https://www.unodc.org/unodc/en/data-andanalysis/wdr2024-drug-market-trends.html



# Type of research: Case Study, Abstract 25-1-16

Title: Seeing the Difference: Comparing HPPD and Psychotic Hallucinations

Presenting Author: Ginger Llivina, MS3, USA Frederick P. Whiddon College of Medicine

Additional Author(s): Evan Chavers, MD, PGY-3, USA Frederick P. Whiddon College of Medicine, Department of Psychiatry

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**Introduction/Background:** Hallucinogen-persisting perception disorder (HPPD) is a unique syndrome of recurring perceptual disturbances following hallucinogen use, most often LSD.(1,2) These perceptual disturbances are characterized as like those experienced during acute intoxication and are primarily visual in nature such as geometric distortions, floaters, defects of motion perception, or flashes of color. (1,2,3)

Understanding of the pathophysiology of HPPD is limited but primarily thought to be due to alterations in serotonergic neurotransmission. The serotonin 5-HT2A receptor has been implicated, in its role in intoxicating substances and in the efficacy of antipsychotic medications that ameliorate symptoms via 5-HT2A receptor blockade.(1,2,3) Evidence for pharmacologic treatment is scarce due to the rarity and difficulty in studying this condition, but some have found success with benzodiazepines, alpha agonists, and antiepileptic drugs.(1, 2) However, for some, reassurance alone alleviates distress.

**Description:** The patient is a 31-year-old male with bipolar II disorder and ADHD who presented to an outpatient psychiatric clinic for follow-up. After a period of symptomatic stability, he reported brief episodes of breakthrough hallucinations that he found distressing.

A period of diagnostic confusion followed for months as these hallucinations were not clearly associated with hypomania/mania, life stressors, use of prescribed stimulant medication, or substance use. During this time, his antipsychotic medication was titrated in response to symptoms and tapered due to side-effects several times.

Eventually, the patient connected his ongoing visual disturbances to those occurring with past psychedelic use, leading to a diagnosis of HPPD. The patient was reassured to understand etiology of hallucinations and that visual disturbances would pass. He

continued to have brief episodes but no longer experienced distress. Medications were tapered to doses used during the preceding period of stability.

**Discussion and Conclusion:** We highlight the differences in the hallucinations of psychotic states believed to be associated with dopamine/glutamate dysregulation to the drug-induced perceptual disturbances of substances thought to primarily modulate serotonin. (3,4,5)

Understanding the patient's description of hallucinations led to diagnosing HPPD. However, the period of reactionary treatment by increasing medications underscores the importance of recognizing the difference in hallucinations of distinct etiologies to administering the appropriate treatment. In this case, diagnostic clarity resulted in less distress for the patient and less medication.

**References:** 1. Orsolini L, Papanti GD, De Berardis D, Guirguis A, Corkery JM, Schifano F. The "Endless Trip" among the NPS Users: Psychopathology and Psychopharmacology in the Hallucinogen-Persisting Perception Disorder. A Systematic Review. Front Psychiatry. 2017 Nov 20;8:240.

2. Ayyub J, Nandennagari S, Edelbaum D, Agbo J, Nagendran D, Tamayo L. Hallucinogen-Induced Persisting Perception Disorder: A Case Report. Cureus. 2023 Sep 30;15(9):e46262.

3. Rolland B, Jardri R, Amad A, Thomas P, Cottencin O, Bordet R. Pharmacology of hallucinations: several mechanisms for one single symptom? Biomed Res Int. 2014;2014:307106.

4. Dunayevich E, Keck PE Jr. Prevalence and description of psychotic features in bipolar mania. Curr Psychiatry Rep. 2000 Aug;2(4):286-90.

5. Baethge C, Baldessarini RJ, Freudenthal K, Streeruwitz A, Bauer M, Bschor T. Hallucinations in bipolar disorder: characteristics and comparison to unipolar depression and schizophrenia. Bipolar Disord. 2005 Apr;7(2):136-45.



## Type of research: Case Study, Abstract 25-1-17

Title: Acute Psychosis Associated with Disulfiram Use: A Case Report and Discussion

Presenting Author: Kripa Shrestha, PGY-2, North Alabama Medical Center

Additional Author(s): K. Shrestha, MD, MPH, MS; A. Chintapalli, MD; S. Gatla, MD; P. Narahari, MD, ABPM

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**Introduction/Background:** Disulfiram, a FDA approved medication for treating alcohol dependence, can infrequently cause psychotic symptoms due to its metabolite, diethyldithiocarbamate, which inhibits dopamine-beta-hydroxylase, leading to increase dopamine in brain, which is thought to underlie the pathophysiology of psychosis.

**Description:** A 50 year old male with a history of chronic alcohol use disorder, brought to ED from a 30 day rehabilitation facility after detox from alcohol, for acute onset of psychotic symptoms, after starting disulfiram a week prior. The patient initially was not able to provide coherent history, and presented with psychomotor agitation, fearful behavior, disorganized speech, and subjective reports of feeling of impending death, temporal disorientation, accompanied by auditory hallucinations persisting for 48 hours. Collateral history revealed no family history of psychiatric illness. No specific information of dosage of disulfiram was ascertained. Physical examination revealed the patient confused and somnolent. Laboratory test were normal and toxicology test was negativel.

Mental status exam revealed decreased psychomotor activity, somnolence, guarded behavior, auditory hallucinations with distorted perception, feeling of dissociation along with impaired insight and judgement.

Pharmacological intervention with Olanzapine 10 mg led to resolution of psychotic symptoms. Patient cognitive orientation returned to baseline within three days, however anterograde amnesia for that acute episode was observed. Olanzapine was discontinued after 48 hours and the patient returned to his premorbid functional state and was discharged to home.

**Discussion and Conclusion:** Approximately 200,000 individuals in the US use disulfiram annually. Disulfiram-induced psychosis is uncommon and hence diagnosing the cause

of acute psychosis can be challenging. Therefore, it is recommended that patient initiating disulfiram be informed about the potential for not only psychosis, but also for catatonia and mania, particularly those with a family history of psychotic disorder, preexisting psychotic disorder, or the use of dopaminergic agents or concomitant stimulant treatment or stimulant drug use. Resolution of symptoms typically occurs after stopping disulfiram and/or with short-term antipsychotic medication. There are limited preclinical studies in animal models for elucidating the neurobiological mechanisms, and thus, implies a need for more research to better understand the neurobiological mechanisms of these adverse reactions.

**References:** Mohapatra, S., & Rath, N. R. (2017). Disulfiram Induced Psychosis. Clinical psychopharmacology and neuroscience : the official scientific journal of the Korean College of Neuropsychopharmacology, 15(1), 68–69. https://doi.org/10.9758/cpn.2017.15.1.68

Vaccari, A., Saba, P. L., Ruiu, S., Collu, M., & Devoto, P. (1996). Disulfiram and diethyldithiocarbamate intoxication affects the storage and release of striatal dopamine. Toxicology and applied pharmacology, 139(1), 102–108. https://doi.org/10.1006/taap.1996.0147

Karamanakos, P. N., Pappas, P., Stephanou, P., & Marselos, M. (2001). Differentiation of disulfiram effects on central catecholamines and hepatic ethanol metabolism. Pharmacology & toxicology, 88(2), 106-110.

Takacs, R., Milan, F., Ungvari, G. S., Faludi, G., & Gazdag, G. (2016). Catatonia in disulfiram intoxication - a case report and a brief overview of the literature.

Neuropsychopharmacologia Hungarica : a Magyar Pszichofarmakologiai Egyesulet lapja = official journal of the Hungarian Association of Psychopharmacology, 18(2), 110– 114.

Rosenstand, N. J., Nielsen, A. S., Skøt, L., Anhøj, S., Nielsen, D. G., Højlund, M., & Mellentin, A. I. (2024). Pharmacological Treatment of Alcohol use Disorder in Patients with Psychotic Disorders: A Systematic Review. Current neuropharmacology, 22(6), 1129–1143. https://doi.org/10.2174/1570159X21666221229160300

Roncero, C., Abad, A. C., Padilla-Mata, A., Ros-Cucurull, E., Barral, C., Casas, M., & Grau-López, L. (2017). Psychotic Symptoms Associated with the use of Dopaminergic Drugs, in Patients with Cocaine Dependence or Abuse. Current neuropharmacology, 15(2), 315–323. https://doi.org/10.2174/1570159x14666160324144912

https://www.alcoholhelp.com/treatment/disulfiram/

https://www.addictioncenter.com/alcohol/disulfiram/



## Type of research: Case Study, Abstract 25-1-18

Title: Testosterone Therapy for Depression in Men: High Potential, Limited Evidence

Presenting Author: Tina Huang, MS-3, UAB Heersink School of Medicine

Additional Author(s): Mina Takahashi, MD; Luis Benitez, MD; Anupama Yedla, MD; Janaki Nimmagadda, MD; Clinton Martin, MD. Department of Psychiatry UAB Heersink SOM Huntsville Regional Campus

Introduction/Background: Testosterone acts as a modulator of neurotransmitter receptors. Men with testosterone deficiency have an increased risk of developing MDD compared to healthy controls. Studies show that men with depression often experience reduced testosterone levels, and men with hypogonadism can have depressive symptoms. However, the prevalence of hypogonadism and concurrent major depression is not well established. A meta-analysis by Zarrouf et al. suggests testosterone replacement therapy (TRT) has a positive impact on depressive symptoms, measured by the Hamilton Rating Scale for Depression, compared to placebo.

**Description:** A 36-year-old male with a history of MDD, insomnia, and mixed hyperlipidemia presented to the psychiatric clinic with worsening depressive symptoms over 2 years. He reported decreased motivation, sadness, anhedonia, insomnia, and intermittent suicidal ideation. His depression began at age 30, after presenting to his primary care physician with suicidal ideation. He was prescribed escitalopram 20 mg, quetiapine 25 mg, and referred to therapy.

The patient reported being on TRT through an outside clinic. His regimen included testosterone cypionate 200 mg IM weekly, gonadotropin 30 units weekly, and anastrozole 1 mg daily. Recent labs showed total testosterone of 476 ng/dL and free testosterone of 136 pg/mL. While mood improved slightly, he continued to have episodes of sadness, decreased motivation, and impaired concentration.

Social history revealed alcohol use (12 drinks/week), occasional marijuana use, and a daily caffeine intake of 300 mg. He denied tobacco use. His treatment plan included trazodone 100 mg for insomnia and bupropion 75 mg to augment his existing regimen

**Discussion and Conclusion:** Testosterone's role in the pathophysiology and treatment of depression in men remains under investigation. The inflammatory network may link testosterone to mood disorders, with increased levels of inflammatory cytokines found in depression. Testosterone may modulate inflammation by acting on adipose tissue to

prevent the release of cytokines and by modulating GABA-A receptors. TRT appears more effective in men under 60, those with hypogonadism, and those with subthreshold depression. It is generally ineffective in men over 60, eugonadal populations, and those with MDD. The TRAVERSE trial found modest improvements in mood and energy with TRT in men with hypogonadism. However, TRT is not currently recommended as primary or augmentation therapy in depression guidelines.

# **References:**

1. Fischer S, Ehlert U, Amiel Castro R. Hormones of the hypothalamic-pituitarygonadal (HPG) axis in male depressive disorders - A systematic review and metaanalysis. Front Neuroendocrinol. Oct 2019;55:100792. doi:10.1016/j.yfrne.2019.100792

2. Zarrouf FA, Artz S, Griffith J, Sirbu C, Kommor M. Testosterone and depression: systematic review and meta-analysis. J Psychiatr Pract. Jul 2009;15(4):289-305. doi:10.1097/01.pra.0000358315.88931.fc

3. Amanatkar HR, Chibnall JT, Seo BW, Manepalli JN, Grossberg GT. Impact of exogenous testosterone on mood: a systematic review and meta-analysis of randomized placebo-controlled trials. Ann Clin Psychiatry. Feb 2014;26(1):19-32.



# Type of research: Case Study, Abstract 25-1-19

Title: Case Report: Psychotic Episode following Marijuana Gummies in Low-Risk Patient

**Presenting Author:** Mabel Berg, MS3, University of Alabama at Birmingham Heersink School of Medicine

Additional Author(s): Authors: Mabel Berg, M.S. 1, Luke Frost, B.S. 1, John Spencer Laue, B.S.E. 1, Dr. Clinton Martin, M.D. 2

Affiliations: University of Alabama at Birmingham Heersink School of Medicine1, UABHSOM Huntsville Campus, Department of Psychiatry2

**Introduction/Background:** Cannabis and THC use has grown significantly in the last few decades. However, THC content in cannabis has also increased. With these changes, the incidence of psychotic experiences has risen and presentation of first psychotic episodes have anticipated. These psychotic episodes can be seen in patients even when there are protective factors present such as a solid support system and a high socio-economic status.

**Description:** A 34-year-old male was brought to the Emergency Department (ED) involuntarily by police after making threats to kill both himself and his boyfriend in a propane tank explosion. His behavior had become increasingly erratic over the preceding two weeks, with worsening paranoia, delusions of possession, and auditory and visual hallucinations. One week before his symptoms started, he had significantly increased his cannabis intake, specifically doubling of Delta-8 THC gummies. Further history revealed that the patient had experienced increasing stress since losing his job as an Advanced Practice Provider (APP) six months prior, leading to legal issues and social isolation.

On psychiatric evaluation, the patient appeared disheveled, agitated, and exhibited pressured, tangential speech with a guttural quality during distress. His mood was anxious and labile, with an incongruent affect. His thought process was disorganized. He also displayed grandiosity, claiming he was soon to become the CEO of his former workplace. He demonstrated poor insight and judgment but remained alert and oriented.

Workup, including labs and substance screening, was unremarkable aside from THC and prescribed amphetamines (Vyvanse). His outpatient psychiatrist confirmed that this presentation was atypical for his baseline.

His presentation was most consistent with an underlying bipolar affective disorder, presenting as a manic episode with psychotic features. Despite protective factors including his high level of education, strong social support, and engagement in outpatient psychiatric care, his symptoms necessitated involuntary hospitalization.

**Discussion and Conclusion:** This case illustrates the possibility of increased THC leading to precipitation of underlying bipolar affective disorder. Social normalization of cannabis/ THC use is especially important as this patient's THC dosing recently doubled. His case highlights the importance of addressing external factors in mitigating the impact of acute psychiatric decompensation.



## Type of research: Case Study, Abstract 25-1-20

Title: A Child in Pause: Recognizing and Managing Pediatric Catatonia

**Presenting Author:** Caleb Thomas, MS-3, University of South Alabama College of Medicine

Additional Author(s): Robert Hays Osborne - PGY2

**Introduction/Background:** Catatonia is a neuropsychiatric condition characterized by motor, behavioral, and autonomic abnormalities. Catatonia is commonly thought to be a secondary condition that arises alongside mood disorders, schizophrenia, and neurologic insults. While this condition can be seen in up to 2.1% of psychiatric patients, it is fairly rare to be diagnosed in the pediatric population, with only 5.2% of hospitalized catatonia cases between 2016-2020 being found within children.1,2

**Description:** A 3 year old female child with no significant past medical history and normal birth history presented to the emergency department for altered mental status with a 5 day history of fever, decreased PO intake, and complaints of generalized pain. The patient was also noted to have lost verbalization 2 days prior to admission. While in the ED, the patient was noted to be afebrile but began having generalized tonic-clonic jerking episodes with decerebrate posturing. Initial workup showed a serum leukocytosis of 20.6x103 cells/mcL with leftward shift, CSF white count of 20 cells/mcL with normal glucose and protein, and negative CSF, respiratory, and urinary BioFires. MRI imaging revealed an incidental Chiari 1 Malformation but no acute intracranial findings. Workup began for acute disseminated encephalomyelitis (ADEM) and the patient was placed on presumptive high dose steroid treatment per recommendations of the neurology consult team. On day 5 of admission, psychiatry was consulted due to symptoms of catatonia including decreased social interaction and staring spells. Bush-Francis Catatonia Rating Scale (BFCRS) of 11 was calculated for this patient with notable findings of mutism, stupor, posturing, mild rigidity, and withdrawal. Treatment with lorazepam was initiated at 0.5 mg IV followed with scheduled dosing of 0.25 mg TID. After 3 days of treatment, BFCRS had decreased and remained at 0, indicating resolution of catatonia. Later workup revealed MOG Ab+ confirming diagnosis of MOG-ADEM. Patient clinical status continued to improve after treatment, and she was discharged home two weeks after admission.

**Discussion and Conclusion:** A diagnosis of catatonia in young pediatric populations may be difficult due to critical developmental changes occurring and inability to

distinguish between normal and pathological behaviors. The differential diagnosis list is expansive with the inclusion of encephalitis, autism spectrum disorder, major depressive disorder with psychotic features, neuroleptic malignant syndrome, mitochondrial and metabolic disorders, and psychological trauma.3 It is important to emphasize that catatonia is often secondary to these conditions and may overlap with current symptomatology, yet it is important to recognize catatonia due to its high morbidity and mortality in the pediatric population. Benzodiazepines remain the first line treatment for catatonia, and this treatment proved effective in this specific patient. It is important to note that this patient is one of the youngest documented patients diagnosed with non-drug induced catatonia, with this patient being 36 months old at the time of diagnosis. To our knowledge, the youngest documented case details a 37 month old child with MOG-ADEM that underwent similar treatment.4

**References:** 1. Burrow JP, Spurling BC, Marwaha R. Catatonia. [Updated 2023 May 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK430842/

2. Luccarelli J, Kalinich M, Fricchione G, Smith F, Beach SR, Smith JR. Diagnostic and demographic factors of pediatric and adult catatonia hospitalizations: A 2016-2020 National Inpatient Sample Study. Acta Psychiatr Scand. 2024;150(4):234-244. doi:10.1111/acps.13744

3. Hauptman AJ, Benjamin S. The Differential Diagnosis and Treatment of Catatonia in Children and Adolescents. Harv Rev Psychiatry. 2016;24(6):379-395. doi:10.1097/HRP.00000000000114

4. Srinivasan, A., Baldwin, I., & Smith, J. R. (2024). A Case of Catatonia in a 37-Month-Old Child With MOG-Antibody-Positive Acute Disseminated Encephalomyelitis. Journal of the American Academy of Child and Adolescent Psychiatry, S0890-8567(24)01943-9. Advance online publication. https://doiorg.libproxy.usouthal.edu/10.1016/j.jaac.2024.07.930



## Type of research: Case Study, Abstract 25-1-22

**Title:** When Minors Can Choose: A Case Study on the Age of Consent for Medical Treatment in Alabama

Presenting Author: Megan Brunsvold, MS-3, UAB Heersink School of Medicine

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**Introduction/Background:** Informed consent is a process in which a healthcare provider explains the risks, benefits, and alternatives of a particular procedure or treatment to a patient. The age of consent for medical treatment differs by state, with the majority establishing it at 18. Currently, Alabama is one of three states with the lowest age of consent for medical treatment, set at 14. A recent bill proposed by an Alabama senator would raise the age of consent for medical treatment in Alabama to 18. The purpose of this case study is to explore the benefits and drawbacks of raising the age of medical consent in Alabama, using real-world examples.

**Description:** A 14-year-old male with bipolar disorder presented to the hospital in an acutely manic episode with psychotic features. The patient required a police officer as a patient companion due to his extreme agitation. The patient asked the attending physician permission for his parents to be in the room during the interview, and the physician's automatic response was that it was the patient's decision. A second case involved a teenager who lived with her parents. She had a positive result on a routine urine drug screen and asked her physician to keep the results confidential. Her parents were not permitted to access medical records from the appointment. How should physicians maintain privacy while recommending treatment for teenagers disagreeing with their guardians?

**Discussion and Conclusion:** While increasing the age of consent for medical treatment may enhance parental involvement and prevent impulsive decisions, it risks delaying critical treatments and restricting healthcare access for vulnerable youth. For example, knowing a therapist must reveal sensitive information to a parent might reduce the

likelihood of disclosure in a teen. A case-based survey examining adolescents' attitudes toward medical consent found that they believed the best treatment decisions were made in collaboration with their parents. Research also indicates a positive correlation between age and the ability to consider future consequences, suggesting parental input is beneficial. A compromised approach, such as allowing open access to screenings while involving a guardian when medication is prescribed, could provide a solution that respects both legal and ethical considerations.

**References:** 1. Lewis, C. C. (1981). How adolescents approach decisions: changes over grades seven to twelve and policy implications. Child Development, 52(2), 538-544.

2. Roberson, A., Kjervik, D. (2011). Adolescents' perceptions of their consent to psychiatric mental health treatment. Nursing Research and Practice, 2012(1). doi: 10.1155/2012/379756.

3. Shah, P., Thornton, I., et. al. (2024). Informed consent. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK430827/.

4. Sharko, M., Jameson, R., et. al. (2022). State-by-State variability in adolescent privacy laws. Pediatrics, 149(6):e2021053458.