Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-01

Title: Details Matter

Presenting Author: Sarah Pierce, PGY-2, Mississippi State Hospital Psychiatry Residency Program

Additional Author(s): Chasity L. Torrence, MD, Core Faculty, Mississippi State Hospital Psychiatry Residency Progarm Core Faculty, Medical Director of Hinds Behavioral Health Services-Region 9

Introduction/Background: Symptoms of mental illness are not always due to mental illness and often have another mechanism of origin, including medical illness or substance use. Determining the neurological structures and pathways producing psychotic symptoms and behaviors remains poorly understood, and many questions persist. It is important to acquaint oneself with the many facets of a person's mental experience before trying to provide treatment, including a detailed history, medical work-up, and data correlation. An electroencephalogram (EEG) is an example of medical work-up often used to assess for abnormal neurological activity including seizures.

Description: We present a case involving a 21-year-old African American male who was committed for psychiatric treatment after recent onset of psychotic symptoms which included paranoia, persecutory delusions, command auditory hallucinations, avolition, and disorganized behavior. After obtaining further collateral history, we discovered that the patient had a history of traumatic brain injury and six-week coma following a motor vehicle collision three years prior. This historical detail inspired a more comprehensive neurological work-up for neurological abnormalities that could be contributing to the production of this patient's psychotic symptoms.

Abnormal theta waves along with seizure activity were discovered on this patient's EEG which directed our treatment plan. We initiated an anti-epileptic to address the seizure activity and tapered off the anti-psychotic which had been previously initiated. The patient's symptoms remitted, and he endorsed improvement in his cognition. After he demonstrated improved functioning through meaningful participation in daily rounds and therapeutic programming, we discharged our patient home to his mother with regularly scheduled follow-up appointments.

Discussion and Conclusion: A brief review of literature related to theta wave abnormalities revealed the importance of theta and gamma interactions for proper theta functions. Theta waves and gamma oscillations are the most significant rhythms recorded in the hippocampus during awake or REM sleep. Data suggests theta to originate from interactions between the medial septum-diagonal band of Broca and circuits within the hippocampus. Theta and gamma interactions appear to enable theta to accomplish functions of memory encoding and spatial navigation. Loss of the interactions between theta and gamma oscillations appears to be at the foundation of various neuropathological conditions. Perhaps this improper interaction led to our patient's psychotic presentation.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-02

Title: New-onset severe psychosis following Synthetic Marijuana use in an older patient: A Case Report

Presenting Author: Ahmed Alhassan, PGY-2, UAB Heersink School of Medicine

Additional Author(s): Ahmed Alhassan, MBBS, MRCPsych, UAB Department of Psychiatry and Behavioral Neurobiology; Srihari Prahad, BS, UAB Department of Psychiatry and Behavioral Neurobiology; Badari Birur, MD, FAPA, UAB Department of Psychiatry and Behavioral Neurobiology

Introduction/Background: Synthetic cannabinoids (SCs), a class of new psychoactive substances (NPS) commonly known as "spice" or under various brand names (K2, Genie, Yucatan Fire and King Krypto) have rapidly gained popularity and become the most prevalent NPS on the drug market (Martinotti et al., 2021a). SCs, unlike natural cannabis (NC), are not controlled by international drug conventions, posing a significant risk to public health (Martinotti et al., 2021b). These substances, easily accessible through the internet, convenience stores, and "head shops," are relatively inexpensive and challenging to detect in routine drug screenings (Auwärter, 2009). The existing literature provides strong evidence of an association between cannabis use and psychosis (Henquet et al., 2005; Marconi et al., 2016) but there is significantly less data on NPS psychosis.

Description: We present a clinical case report of a 51-year-old African American female with no known past psychiatric history who presented with synthetic marijuana-associated psychosis. She was admitted to the psychiatric unit after presenting to the emergency department with six days of paranoia and altered mental status. During hospitalization, she exhibited disorganized behavior, persecutory delusions, and extreme agitation which required many interventions, including an ethics consult after a bizarre situation involving theft and concealment of an object in her vagina. The patient required over two weeks of psychiatric hospitalization on the highest acuity unit at our institution during her substance washout. Once stabilized, the patient started to exhibit clear, organized thinking and developed good insight and judgment of her situation which allowed her to reveal that she smoked synthetic marijuana from a new dealer prior to admission.

Discussion and Conclusion: The primary goal of this case is to highlight the sequelae of synthetic marijuana-associated psychosis. A synthetic marijuana-associated psychosis picture can drastically vary from traditional marijuana and is often undetectable on a typical UDS which can easily lead to false diagnoses of a primary psychotic disorder. With the recent exponential rise in commercial synthetic cannabis, it is imperative to educate and train providers to inquire specifically about synthetic marijuana use in addition to looking for specific signs that can increase clinical suspicion to ensure proper identification and treatment.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-03

Title: MTHFR C677T Polymorphism & Depression

Presenting Author: Kimberly Romanoff, MS3, University of Alabama at Birmingham Heersink School of Medicine

Additional Author(s): Chelsea Palmer MD, UABHSOM Huntsville Campus, Department of Internal Medicine; Janaki Nimmagadda MD, UABHSOM Huntsville Campus, Department of Psychiatry; Clinton Martin MD, UABHSOM Huntsville Campus, Department of Psychiatry

Introduction/Background: Approximately 10-15% of the general population suffers from depression at some point in their lifetime. Many studies show that low folate (vitamin B9) is associated with depressive symptoms. The enzyme methylenetetrahydrofolate reductase (MTHFR) connects the folate cycle (purine and thymidylate synthesis) and the methionine cycle (s-adenosylmethionine synthesis). It is essential to the conversion of 5,10-MTHF to 5-MTHF, which then donates a methyl group to convert homocysteine to methionine. The MTHFR C677T polymorphism, in which there is a C to T substitution changing alanine to valine, causes decreased levels of 5-MTHF, which subsequently leads to folate deficiency and hyperhomocystenemia. This, in turn, causes abnormalities in monoamine production and neural pathways. Multiple studies have now been finding an association between the MTHFR C677T polymorphism and clinical depression especially in women and Asian populations and marginally in White populations; however, there is no evidence of correlation in elderly populations. The following case presentation and corresponding research articles contribute to our understanding of the intricate relationship between genetics and depression as well as possible treatment methods.

Description: This review was inspired by a 59-year-old woman with past medical history of MTHFR mutation and sarcoidosis and past psychiatric history of depression starting when she was 24 years old, one manic episode with psychotic features 2 years ago that led to hospitalization for 1 day, and insomnia. She failed trials of escitalopram, duloxetine, venlafaxine, aripiprazole, bupropion, and buspirone. She denies alcohol use, tobacco use, and use of any drugs that aren't prescribed. She was prescribed fluoxetine HCl 10mg TID, eszopiclone 3mg PRN, and L-methylfolate 7.5mg QD.

Discussion and Conclusion: About 30% of people with depression are resistant to conventional treatments; therefore, new studies are exploring the efficacy of folate supplementation in alleviating symptoms of treatment-resistant depression. Some articles have shown that folate supplementation in depressed patients with the MTHFR mutation is not statistically significant in treating symptoms, but a BMI of greater than 40 is a better predictor for response. Other studies, however, have found that folate supplementation as an adjunct to an SSRI led to significantly greater improvement in depressive symptoms when compared to a placebo in addition to an SSRI. It's important to note that the results have not been consistent across all studies, and future research needs to continue to explore the efficacy of folate supplementation in patients with MTHFR C677T polymorphism-associated depression as well as potential alternative treatments. Screening for genetic depression markers is not a routine practice in treatment-resistant depression, and there needs to be more research looking into the effects of alternative polymorphisms of MTHFR as well as the effects of mutations of other genes. Future studies should also investigate if the MTHFR C677T polymorphism can cause other mental disorders like anxiety disorders, bipolar disorders, and schizophrenia. Regardless, this case presentation and supporting research underscores the importance of considering genetic variations in patients with psychiatric disorders and sheds light on potential avenues for personalized interventions.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-04

Title: Stressed in Silence

Presenting Author: Emory Johnson, MS-3, UAB School of Medicine

Additional Author(s): Emory Johnson, MS3; Abbey Zane, MS3; Janaki Nimmagadda, MD

Introduction/Background: Selective mutism is an uncommon disorder in school children characterized by the inability to speak in certain social situations but speak normally in others.[1] It typically presents with failure to speak in a new school environment, causing significant social and academic impairment.[2] A strong relationship between selective mutism and social phobia disorder has led to its classification in the Diagnostic and Statistical Manual of Mental Disorders V as an anxiety disorder.[2]

Description: A 6-year-old girl without any significant past medical history initially presented because two years prior, when she started Pre-K, she did not talk to anyone, use the bathroom, eat or play at school. Her mother reported consistent speaking at home. Primary care prescribed Sertraline 50 mg at age 5, but compliance was poor. She is now 7 and repeating a grade as she continues not to speak at school. However, she plays with her friends during recess in a nonverbal way. She has seen a school counselor with minimal success and recently started speech therapy.

On exam, she made poor eye contact but would occasionally respond to yes or no questions with a hesitant thumbs up or down upon encouragement. Her mother often speaks for her. Her mood was difficult to assess due to lack of communication, but her affect is guarded and constricted. Insight and judgment are poor.

Discussion and Conclusion: Our patient presented with symptoms of selective mutism that started when she entered pre-K, with little to no progress in three years. She is receiving cognitive behavioral therapy (CBT) and a Selective Serotonin Reuptake Inhibitor (SSRI), which have been shown to be effective in some patients with selective mutism.[3] However, CBT requires higher level cognitive abilities that begin to mature at age 7, so it is imperative to develop treatment options that address the young onset selective mutism.[4]

Parent Child – Interaction Therapy (PC-IT), which requires parental understanding of when to praise, pause, and push their child to speak, has few studies but has shown great promise for children between the ages 3 to 8.[4,5,6]

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-05

Title: Beyond the Monthly Battle: Unraveling Effective Therapies for Premenstrual Dysphoric Disorder

Presenting Author: Nikki Ahuja, MS-3, UABHSOM

Additional Author(s): Bradley Thigpen MS-3; Clinton Martin MD; Janaki Nimmagadda

Introduction/Background: Premenstrual dysphoric disorder (PMDD) is a severe form of premenstrual syndrome (PMS) affecting women during their reproductive years.

The exact etiology of PMDD remains unclear. One hypothesis suggests an increase in preovulatory estrogen triggers symptoms of PMDD. Another hypothesis suggests the decline in progesterone, particularly allopregnanolone, in the luteal phase causes CNS changes in GABA which can lead to PMDD symptoms.

Women who have a family history of PMDD or a history of depression, postpartum depression or other mood disorders are at a higher risk. Obesity and smoking are also risk factors for PMDD.

Management of PMDD typically involves pharmacological and non-pharmacological approaches. Selective serotonin reuptake inhibitors (SSRIs) have been the mainstay treatment alleviating physical and psychological symptoms. Oral contraceptive pills have also been proven to show efficacy against PMDD.

Description: At the time of the visit, patient was a 12-year-old female who was having numerous mood swings at the height of which she would get angry and start to bang her head and hit her family members. These episodes alternated with depressed moods associated with suicidal ideations and cutting herself. Over the span of five years, she had three inpatient psychiatric hospitalizations, one where she was described as psychotic. She failed to respond to several trials of SSRI's, antipsychotics and SNRI's. We later learned that her menstrual cycles were irregular. After consulting gynecology, we learned she has Polycystic Ovarian Syndrome (PCOS) which perpetuated her mood swings. She had severe complications associated with untreated PCOS including low vitamin D and severe scoliosis. Now at 19, after being treated for PCOS, our patient is relatively stable on Desvenlafaxine 50 mg daily and methylphenidate ER 27 mg.

Discussion and Conclusion: Currently about 3-8% of women meet strict criteria for PMDD although the incidence may be higher. 13-18% of women have symptoms of PMDD severe enough to cause impairment and distress, but they don't meet the number criteria of symptoms for PMDD.

5 of the following 11 symptoms should be present: depressed mood, anxiety, anger, lack of energy, change in appetite, trouble sleeping, sense of being overwhelmed, physical symptoms such as breast tenderness, headaches, muscle pain, and bloating.

Large trials have shown that luteal phase (14 days before menses) dosing of medication is an effective treatment for PMDD. These medications include SSRI's such as sertraline 100 mg, fluoxetine 20 mg, paroxetine 20 mg, and escitalopram 20 mg.

Another study showed that continuous dosing versus luteal phase dosing showed no difference and they were equally efficacious.

Researchers are hypothesizing that continuous dosage of oral contraceptive pills may be second line therapy if SSRI's do not work.

Future studies need to be done to clarify the pathophysiology of PMDD and to see who will benefit from treatment.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-06

Type of Research: Case Study

Title: Interplay Between Acute Alcohol Intoxication and Acetaminophen Overdose: A Case Study

Presenting Author: Savannah Petrus, MS-3, University of Alabama at Birmingham Heersink School of Medicine

Additional Author(s): Evan Gross, BS, University of Alabama at Birmingham Heersink School of Medicine, Huntsville Campus, Huntsville, AL; Hudson Honeywell, BS, University of Alabama at Birmingham Heersink School of Medicine, Huntsville Campus, Huntsville, AL; Tarak M. Vasavada, MD, Department of Psychiatry, University of Alabama at Birmingham, Huntsville Campus, Huntsville, AL

Introduction/Background: Alcohol and acetaminophen are metabolized by hepatic cytochrome P450 enzymes which, in large quantities, can lead to hepatotoxicity and eventual failure. This case report aims to highlight the interplay between acute alcohol ingestion and acetaminophen metabolism.

Description: The patient was a 48-year-old female who presented to the emergency department following a suicide attempt. On initial presentation, she was encephalopathic with slow slurred speech and smelled of alcohol. Her past medical history was notable for bipolar disorder type 1, alcohol use disorder (AUD), hypothyroidism, and multiple previous suicide attempts. Her initial labs were notable for a bicarbonate of 22 with an anion gap of 18, alcohol level of 132 mg/dL, acetaminophen level of 108.7 mcg/mL, hypokalemia, and hypophosphatemia. Her family later reported finding a Tylenol bottle missing over 90 tablets. Her AST and ALT were within normal range on admission but peaked on hospital day 3 with an AST of 5905 and ALT of 4002. She was treated with acetylcysteine, thiamine, folate, potassium chloride, and sodium phosphate for her overdose and electrolyte abnormalities. She left against medical advice on hospital day 11 after refusing admission to the psychiatric service. Before leaving the hospital, she was restarted on sertraline for her depressive symptoms and prescribed naltrexone for AUD.

Discussion and Conclusion: This patient presented with classical signs of acetaminophen overdose including anion gap acidosis, elevated liver function tests, elevated INR, hypophosphatemia, and hypokalemia. She was in a state of acute alcohol intoxication with a history of AUD. The effects of alcohol on acetaminophen toxicity have been shown to vary with chronic versus acute alcohol use. It has been shown that chronic alcoholism may lead to more severe liver injury in the setting of an acute acetaminophen overdose due to induction of CYP2E1 or depletion of glutathione stores [1-3]. Conversely, acute alcohol ingestion has been shown to reduce hepatotoxicity in an acute acetaminophen overdose due to alcohol acting as a competitive inhibitor to CYP2E1 [1,4,5]. Based on these data, our patient's acute alcohol intoxication may have lessened the severity of her acetaminophen overdose, preventing acute liver failure following the ingestion of over 90 acetaminophen tablets.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-07

Title: Stimulant-induced Dermatillomania in Comorbid ADHD

Presenting Author: Bradley Thigpen, MS-3, UAB Heersink School of Medicine

Additional Author(s): Nikki Ahuja, MS-3, UAB Heersink School of Medicine; Janaki Nimmagadda, MD, UABHSOM Huntsville Campus, Department of Psychiatry; Clinton Martin, MD, UABHSOM Huntsville Campus, Department of Psychiatry

Introduction/Background: Excoriation (skin-picking) disorder (ED), also known as dermatillomania, is a psychiatric condition characterized by recurrent picking of the skin, leading to skin lesions and significant distress or functional impairment.(1) The disorder mainly occurs in adolescence females with various psychiatric comorbid conditions.(1) Pathophysiology of ED is poorly understood, but studies have shown individuals with body-focused repetitive behaviors (BFRBs) showed significant hyperactivation in the bilateral inferior frontal gyrus and increased activation in various brain areas, suggesting the existence of dysregulated reward circuitry in BFRBs.(2) We present the case of a patient with ADHD with stimulant induced dermatillomania.

Description: Patient is 8-year-old female with ADHD that presented for worsening self-mutilating behavior. Dexmethylphenidate use improved ADHD symptoms but worsened cuticle biting and precipitated skin picking. Despite reducing dexmethylphenidate dosage and adding guanfacine, there was no improvement in her skin picking behaviors. Dexmethylphenidate was discontinued and methylphenidate was started with continued guanfacine. Within 3 months, there was significant improvement in skin picking and nail biting. A year later, skin picking worsened and required antibiotics for superimposed impetigo. Methylphenidate was further reduced to the lowest possible dose and atomoxetine was added.

Since starting atomoxetine and decreasing her methylphenidate dose, mother reports cessation of skin picking and continued mild nail biting. Over her subsequent follow up appointments, increased stimulant dosing resulted in her skin picking returning, while decreasing stimulant dosing resulted in cessation of skin picking.

Discussion and Conclusion: This patient appears to have stimulant-induced dermatillomania, which has been shown in previous case reports.(3,4) Decreased dosing and addition of nonstimulant ADHD medications resulted in improvement or cessation of skin picking. Stimulants lead to increased levels of these neurotransmitters in the synaptic cleft, leading to increased stimulation of postsynaptic receptors.(5) Prior studies have shown onset of dermatillomania and body-focused repetitive behaviors after beginning dopaminergic treatment in Parkinson's patients and methamphetamine abuse, respectively.(6,7) Since stimulants and dopaminergic medications work by similar mechanisms, this suggest possible linkage to increased dopamine levels and body-focused repetitive behaviors. Future research should be done to identify the possible pathophysiology of stimulant induced body-focused repetitive behaviors to improve future patient care.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-08

Title: De-Sanctioned Suicide: Impact of social media on adolescent mental health

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Introduction/Background: The impact of social media on the mental health of children and adolescents is a public health concern recently highlighted by the US Surgeon General. Ongoing brain development in this population increases vulnerability to social and peer influence, which may negatively impact self-esteem and subjective well-being. For individuals with baseline mental health struggles, the risk of harm increases further with exposure to viral “challenges” and the availability of self-injury content. Healthcare professionals must know current literature and guidelines regarding social media use and effectively implement this knowledge to improve adolescent mental health [1].

Description: A 16-year-old male with a history of Tourette’s disorder, autism spectrum disorder, and ADHD presented to the ED with suicidal ideations, intent, and plan. He described a plan involving ligature strangulation learned from Reddit, a popular social media platform. The specific discussion thread referenced is known for encouraging suicide and methods of self-harm; another user provided instructions for asphyxiation based on one prior interrupted suicide attempt. The patient was non-adherent with prescribed Melatonin and Guanfacine. He endorsed multiple psychosocial stressors: sexual abuse by a sibling, a recent break-up, witnessing two siblings attempt suicide, and witnessing attempted murder by one biological parent on the other. Inpatient psychiatric treatment was deemed necessary, given the high risk of self-harm.

Discussion and Conclusion: YouTube, TikTok, Instagram, and Snapchat are among the top social media platforms offering unique user experiences [2]. These platforms have noteworthy impacts, influenced by individual preferences and content exposure [1]. The known risks include disruption of sleep, promotion of harmful content, and normalization of risky behaviors [3,1]. Alternatively, social media can promote help-seeking behavior and expand access to mental health support [3,1]. Providers are encouraged to engage with social media to help mediate holistic discussions with patients and develop strategies to maximize the benefits while minimizing negative effects [3,4]. Effective use of social media by healthcare professionals mandates tailored interventions, nuanced research, and collaboration with social media platforms. Further exploration of platform specifics, demographic variations, and adolescent engagement can help shape informed strategies that foster healthy online behaviors and support the mental well-being of adolescents.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-09

Title: What is Pseudobulbar Affect?

Presenting Author: Hunter Johnson, MS-3, University of Alabama Heersink School of Medicine

Additional Author(s): Clinton Martin MD, UAB Psychiatry faculty; Janaki Nimmagadda MD, UAB Psychiatry faculty; Anupama Yedla MD, UAB Psychiatry faculty

Introduction/Background: Introduction: Pseudobulbar affect can be described as disorder of emotional regulation, which is accompanied by outbursts of emotion (laughing/crying) that is exaggerated and incongruent to the emotions being experienced. (2) The pathophysiology of Pseudobulbar affect (PBA) is currently unknown but may be seen in a variety of neurological diseases including amyotrophic lateral sclerosis, cerebellar disorders, multiple sclerosis, traumatic brain injury, Alzheimer disease, stroke, and brain tumors. (1) Pseudobulbar affect is thought to be a disinhibition syndrome disrupting the serotonin and glutamate pathways. (1) The cerebellum modulates emotional response to social situations and mood based on cortico-pontine-cerebellar circuits. Disruptions in these circuits are thought to lead to PBA. (3) We present a case of pseudobulbar effect due to neurological injury following opioid overdose.

Description: The patient is a 33-year-old female with a past medical history significant for anxiety, opioid use disorder and overdose. The patient was initially diagnosed with anxiety when she was 18 and treated with SSRI medications. At the age of 19 she developed opioid use disorder after receiving opiates from a friend for migraine headaches. At the age of 21 she had an accidental overdose on opiates which lead to encephalitis with seizure. During the patient's hospitalization she was diagnoses with pseudobulbar effect, which was not sufficiently controlled by SSRI medications. The patient experienced spontaneous, inappropriate laughing and crying episodes. Neurology was then consulted and was started on Dextromethorphan but could not tolerate it due to gastrointestinal side effects. Her medication was switched to Oxcarbazepine, which stabilized her affect, and improved social functioning. However, she now has blunted emotions.

Discussion and Conclusion: Pseudobulbar affect can manifest in many neurological diseases, including overdose of opioids. The knowledge of the glutamate and serotonin pathway interruptions had initially prompted treatment with antidepressants, particularly selective serotonin reuptake inhibitors and tricyclic antidepressants. (1) Dextromethorphan/quinidine (DM/Q) combination has shown to be effective in management in emotional outburst in patients with ALS suggesting it might be an effective pharmacologic treatment for PBA. (2) In 2010 the FDA approved Dextromethorphan/quinidine (Nuedexta) and declared to be a safe and effective treatment of PBA. (1, 4). Multiple clinical trials have evaluated the use of dextromethorphan/quinidine for treatment of PBA and while this may be a viable short-term treatment, long term efficacy data is insufficient. (6) Pseudobulbar affect (PBA) can have substantial impact on social interactions and psychological consequences. (1) Newer modalities of treatment suggest patient counseling to emphasize safety precautions to prevent adverse events and to maximize adherence to selected therapies. (5)

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-10

Title: Manic episode following Psilocybin Use in a Man with Bipolar II Disorder: A Case Report

Presenting Author: Haniya Halim, PGY3, UAB Heersink School of Medicine, Department of Psychiatry and Behavioral Neurobiology

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Introduction/Background: There has been an increase in research on the topic of psychedelic substances and their effects as treatment options in neuropsychiatric conditions. Psilocybin is a psychedelic drug that has recently garnered increased interest as an effective treatment modality for treatment-resistant depression, depression associated with terminal conditions, and obsessive-compulsive disorder. Psilocybin binds with high affinity to the serotonin 2A receptor (5-HT2A) and lower affinity to other serotonergic receptors, causing it to have psychomimetic effects and impacts on affective mood. Sparse data exist as to the effects that psilocybin might have on patients at risk for mania, in large part secondary to the exclusion of this patient population from studies due to the concern for inducing mania or worsening illness course. As psilocybin as a treatment increases in popularity, those with a propensity for mania due to a personal or family history of bipolar disorder are at risk for adverse outcomes.

Description: We describe a case of a 21-year-old male with a recent diagnosis of bipolar II disorder and ADHD who developed his first manic episode following the ingestion of large amounts of psilocybin in a short time frame in the form of hallucinogenic mushrooms. He developed symptoms including flight of ideas, impulsivity, agitation, increased energy, and poor insight. He was admitted and treated with valproic acid and risperidone, after which he successfully stabilized.

Discussion and Conclusion: Given the incidence of depression in those with bipolar disorder, impulsivity, and a tendency to abuse substances associated with the illness, further research is needed into the risks of psilocybin in those with bipolar disorder as the substance is used increasingly to treat depression in various settings. Additionally, the nature of development of bipolar disorder is such that there may be a distinct lag time between an adolescent's depressive episode and first manic episode, leaving an opportune time for psilocybin to be trialed and an adverse event to occur. This abstract serves as a cautionary tale to clinicians to conduct careful screening of both personal and family history of bipolar disorder, as well as advise young patients who are at risk for engaging in substance use.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-11

Title: Identifying disparities in buprenorphine prescribing among patients with multiple nonfatal opioid overdoses: a cross-sectional study

Presenting Author: Kimberly Chieh, MS-2, UAB

Additional Author(s): Lauren A Walter, MD, FACEP, UAB; Karen L Cropsey, PsyD, UAB; Li Li, MD, PhD, UAB

Background: Real-world consideration of buprenorphine prescribing is limited, especially in the Southeastern United States, as it relates to overdose frequency. We described buprenorphine prescribing rates for patients experiencing nonfatal opioid overdoses in the context of overdose frequency.

Methods: Electronic medical records review was conducted at an urban, academic hospital in a Southeastern state from January 1 through December 31, 2021. Patients with opioid use disorder (OUD) and nonfatal opioid overdoses, dispositioned from either the emergency department (ED), inpatient, or outpatient affiliated clinics, were identified by International Classification of Diseases-10 codes.

Results: The study included 358 unique patients. Most patients were white (71.5%), male (59.2%), and uninsured (54.2%), with a mean age of 42.0Â±12.8 years. The majority (85.5%) experienced one to three overdoses, and 14.5% of patients had more than three overdoses. The buprenorphine prescription rate increased to 55.8% when patients had more than three overdoses, compared to one overdose (34.5%) and two to three overdoses (37.4%) (p=0.025). Compared to females, more males overdosed more than once (p=0.002). Black patients were less likely to receive buprenorphine prescriptions than white patients (27.3% vs. 44.3%, p=0.009). Compared to patients with multiple overdoses, more patients with one overdose had public insurance (p=0.004) and were less likely to present to the ED (p<0.001).

Conclusion: Under-prescribing of buprenorphine is high among patients with OUD and opioid overdoses, even in patients with multiple overdoses, and there appear to be racial disparities in prescribing. Our findings indicate clinical opportunities for improving buprenorphine prescribing and reducing the current disparities.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-12

Title: Tardive Dyskinesia Puzzle: Exploring Overlapping Movement Disorders in a Clinical Case

Presenting Author: Diamond McNeil, OMS IV, Alabama College of Osteopathic Medicine, Dothan, AL

Additional Author(s): Samantha Le , OMS IV, Alabama College of Osteopathic Medicine, Dothan, AL; Mark Haygood, DO, MS, FAPA, New South Psychiatry, Mobile, AL

Introduction/Background: Tardive dyskinesia (TD) is defined as abnormal, uncontrollable movement seen in the face, arm, trunk, and extremities. TD is estimated to affect 500,000 persons in the United States, with the majority (60-70%) of cases defined as mild in severity(1). Although TD is most commonly associated with patients receiving long-term antipsychotic medications, studies suggest that TD may be linked with other movement disorders. Currently, no official guidelines exist on differentiating between TD and other movement disorders. In this case report, we aim to identify the overlap between movement disorders and TD and to emphasize the importance of recognizing and differentiating TD.

Description: A 62-year-old male presented to an outpatient psychiatry clinic for depression and anxiety. Current psychiatric medications included Paxil 40 mg daily and Buspar 15 mg three times daily. At the initial visit, the patient described his anxiety as episodic. He endorsed feeling restless, anxious, and difficulty concentrating. He reported feeling like his movements felt slow, as well as increased fatigue, depressed mood, anhedonia, and increased sleep. The patient's significant other reported observing abnormal movements from the patient for the past one and a half years. Medical family history was significant for Huntington's disease (uncle), vascular dementia (mother), and stroke (mother). A neurology evaluation was recommended to further investigate the abnormal movements but was denied by the patient at that time. At the primary visit, Paxil was tapered and discontinued. Buspar was continued for anxiety and depression. During subsequent visits, increased movements were observed upon the physical exam. A fine tremor was observed in both upper extremities. Per the patient, this tremor had been present for a few years. Other symptoms included facial movements (facial grimacing and lip-smacking), minor purposeless movement of the upper extremity, poor hand coordination with purposeful movements, and writhing of the neck, face, arms, and legs. The patient denied being on antipsychotics, Phenergan, or Reglan in the past or present.

The patient agreed to follow up with a neurologist for further investigation of his symptoms. An MRI was ordered to investigate for Huntington's by the patient's neurologist. MRI findings showed no focal mass, hemorrhage, hydrocephalus, or acute ischemia. No signs of caudate nucleus atrophy with concomitant enlargement of the frontal horns of the lateral ventricles were found(3).

AIMs (Abnormal Involuntary Movement) scales were administered with an initial score of 6 and a range of 4 to 8 before treatment initiation. After Ingrezza was titrated to 80 mg, the patient's AIMs scores decreased to 2.

Discussion and Conclusion: Tardive Dyskinesia may present with clinical features that overlap with other abnormal movement disorders. Diagnosing a patient with TD becomes more challenging when they exhibit atypical TD features or do not have a history of long-term antipsychotic medication treatment. In the case above, a history of Paxil use led to the induction of tardive dyskinesia in the patient. Selective

Serotonin Reuptake Inhibitors (SSRIs) induced TD is less prevalent than TD induced by antipsychotic medications. However, it's been found that antidepressant-induced TD is common in elderly patients(4).

Due to the complexity of the neuropsychiatric aspects of Huntington's Disease, patients may be misdiagnosed with schizophrenia and treated with antipsychotic medications. Later on in the course of the disease, the development of characteristic choreiform movement may occur, which may be misdiagnosed as medication-induced tardive dyskinesia(5). Additional investigation into the development of official guidelines aimed at distinguishing between tardive dyskinesia and Huntington's disease could greatly contribute to enhancing the accuracy of diagnosis and management of these conditions.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-13

Title: Child and Adolescent Participant Diversity in Clinical Trials for Gamified Digital Mental Health Interventions and Virtual Reality Therapeutics

Presenting Author: Barry R. Bryant, MD, Johns Hopkins University School of Medicine, Department of Psychiatry and Behavioral Sciences

Additional Author(s): Morgan R. Sisk, BS, MS-4, University of Alabama at Birmingham Heersink School of Medicine; Joseph F. McGuire, PhD, Johns Hopkins University School of Medicine, Department of Psychiatry and Behavioral Sciences

Introduction/Background: Children from racially and ethnically diverse backgrounds are disproportionately affected by mental health conditions. Digital mental health interventions (DMHIs), utilizing video games and virtual reality (VR) technology, comprise one approach to overcoming barriers to care. Accordingly, it is imperative that clinical trials evaluating DMHIs include participants from racially and ethnically diverse backgrounds. This study aims to characterize the demographics of participants in clinical trials using gamified DMHIs and/or VR therapeutics to treat pediatric mental health conditions.

Methods: ClinicalTrials.gov database was searched for trials examining gamified DMHIs and/or VR therapeutics in pediatric mental health. Search terms included: Psychiatric Disorder, Psychotic Disorder, Bipolar Disorder, Depression, Anxiety, Obsessive-Compulsive Disorder, Attention-Deficit/Hyperactivity Disorder, Autism Spectrum Disorder, and Tourette Syndrome, as well as "Video Game OR Virtual Reality". Results were filtered to include trials with results and those that had enrolled participants 17 years old or younger. Trials were excluded if they did not use a video game or VR therapeutic to target mental health symptoms. Demographic data from each study was analyzed.

Results: The search yielded twelve clinical trials, four of which were excluded because they did not treat mental health symptoms using a gamified DMHI. One study was excluded because it did not include unique participants. Six of the seven included trials (86%) focused on a video game intervention, while one (14%) utilized a VR therapeutic. Three trials focused on ADHD (43%), two on Anxiety (29%), and two on ASD (29%). All seven clinical trials reported the sex of the participants (71% male, n=354), but only four reported the race of participants. In those four studies, 73% of participants were White (n=296). Only one trial reported the race of control participants (n=2, both White). The second most frequent race of participants was unable to be determined due to the heterogeneity of reported data.

Discussion: Our results suggest that clinical trials for DMHIs need to be intentional about both recruiting diverse participants and reporting race when reporting study results. Before DMHIs can be used to increase access to care, greater diversity is needed in study populations.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-14

Title: Management of Bulimia Nervosa Purging Type in Adolescents

Presenting Author: Lauren Usrey, MS-3, UAB Heersink School of Medicine

Additional Author(s): Janaki Nimmagadda, MD, UAB Heersink School of Medicine at Huntsville, Department of Psychiatry; Clinton Martin, MD, UAB Heersink School of Medicine at Huntsville, Department of Psychiatry

Introduction/Background: Bulimia nervosa (BN) is marked by binge-eating followed by inappropriate compensatory behaviors to prevent weight gain[1]. The lifetime prevalence of BN is estimated to be 1.0%, with women being approximately 90% of those diagnosed[2]. Nearly all cases of BN are accompanied by comorbid psychiatric disorders, such as mood and anxiety disorders[2]. The condition is often difficult to identify due to the majority having a normal BMI and secrecy around binge-eating/compensatory behaviors; as part of this, less than half of those with BN seek treatment[1,2]. The first-line treatment for BN is Cognitive Behavioral Therapy[1]. When psychotherapy is ineffective or inaccessible, pharmacotherapy with fluoxetine is the first choice in adults, but data is limited on its use in adolescents[3,4].

Description: The patient is a 17-year-old female with a history of bulimia nervosa purging-type, generalized anxiety disorder, major depressive disorder, and obesity. She reports that prior to her BN diagnosis, she would restrict public eating and have binge-eating/purging episodes in the secrecy of her home. She would eat uncontrollably until uncomfortable and then induce vomiting to “feel better.” She would also exercise excessively and drink “detoxes” to lose weight. She noticed no abnormalities with this behavior until speaking with her pediatrician. Since being diagnosed, she began treatment with nutrition counseling and 20mg fluoxetine. The patient noted her mood and anxiety symptoms have improved, and her binge-eating/purging episodes have also decreased in frequency.

Discussion and Conclusion: The optimal treatment regimen for bulimia nervosa in adolescents is currently unknown and likely multidisciplinary to encompass the specific needs of the individual. The goal of treatment is symptom reduction and recurrence prevention1. For those with limited access and response to psychotherapy, high-dose fluoxetine, a Selective Serotonin Reuptake Inhibitor, is the most effective pharmacotherapy in reducing binge-eating and purging episodes in adults but has limited data on its use in adolescents[3,4]. This patient had substantial improvement in binge-eating/purging behavior on 20mg fluoxetine, plus symptomatic improvement in her comorbid psychiatric disorders. This case exemplifies the use of fluoxetine therapy as an adjunctive treatment to nutrition counseling and psychotherapy for bulimia nervosa in adolescents.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-15

Title: 5HT4 Receptor Agonists and Their Role in Depression and Suicidality: A Case Study and Analysis

Presenting Author: Audrey Summers, M.D., PGY-4, University of Louisville Department of Psychiatry & Behavioral Sciences

Additional Author(s): Tanya Nagpal, M.D., University of Louisville Department of Psychiatry & Behavioral Sciences; George Kalayil, M.D., University of Louisville Department of Psychiatry & Behavioral Sciences

Introduction/Background: Many medications have been known to cause a dangerous and potentially lethal adverse effect of suicidal thinking and behavior. Most familiarly, antidepressants including serotonin reuptake inhibitors (SRIs) carry a boxed warning for increased risk of suicidality, specifically for pediatric patients (1). A gastrointestinal motility agent, prucalopride (Motegrity), also carries a warning of suicidal thoughts and behaviors (2). Motegrity is a prescription medication used in adults to treat chronic idiopathic constipation (CIC). The mechanism of Motegrity is unique, it is a selective serotonin type 4 (5-HT4) receptor agonist that stimulates colonic peristalsis which increases bowel motility. 5HT4 receptors are located throughout the body, including the central nervous system which may be a mechanism for the psychiatric adverse effects (3).

Description: A 56 year old female with history of depression, anxiety, and irritable bowel syndrome, constipated type was admitted to the inpatient psychiatric unit after being found standing outside a railing over a bridge crossing the Ohio River. The patient's depression and anxiety were well controlled on citalopram for many years. She started taking Motegrity 8 days prior to admission and 3 days into her treatment stopped the medication due to development of suicidal ideation. The patient's suicidal ideation continued for several days despite discontinuing Motegrity.

Discussion and Conclusion: The etiology of this patient's suicidality and behaviors was likely multifactorial given her medical comorbidity and possible eating disorder. However, it is likely Motegrity was the exacerbating factor given it's boxed warning and action at serotonin. Current animal studies show promise for improving depression and memory function with 5HT4 agonists, however the translation of these effects on humans does not current exist in the literature (4). Many studies on 5HT4 agonists do not comment on the adverse effect of suicidality and the current approved drugs are indicated only for gastrointestinal disorders (4). Since prucalopride acts on 5HT4 receptors in the brain including the basal ganglia, it could lead to a dysphoric syndrome and violent suicidal behavior which is similar to the mechanism documented with SRIs (5). It could be hypothesized that some individuals, like our patient, could have different polymorphisms in 5HT4 receptor genes that are more susceptible to exacerbation or emergence of psychiatric symptoms including depression and suicidality (6).

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-16

Title: Changes in Medical Student Stress, Burnout, and Well-Being Before and After the Onset of the COVID-19 Pandemic

Presenting Author: Lucas Glisson, MS4, University of Alabama at Birmingham Heersink School of Medicine

Additional Author(s): Dr. James Banos, PhD, Assistant Professor, UABHSOM Department of Medical Education; Dr. Brook Hubner, PhD, Assistant Professor, UABHSOM Department of Medical Education

Introduction/Background: Medical students exhibit higher levels of stress and lower levels of well-being than their peers (1,2). The COVID-19 pandemic impacted a vast selection of the medical community and is only beginning to be examined (3). This preliminary analysis reports comparisons in medical student self-reported stress, burnout, and well-being before and after the onset of the COVID-19 pandemic. We hypothesized medical students would report higher levels of stress and burnout, and lower levels of well-being in the follow-up survey period.

Methods: Medical students of all class levels participated in an annual survey of stress, burnout, and well-being from 2016-2019. A follow-up survey was administered twice, in 2022 and 2023. Outcome measures included: the Perceived Stress Scale (PSS), Arizona Integrative Outcomes Scale (AIOS), Positive and Negative Affect Scale (PANAS), and the Maslach Burnout Inventory – General Survey (MBI-GS; subscales: Exhaustion, Cynicism, and Professional Efficacy). Separate multiple linear regression models were used to compare outcomes across the first and second survey periods.

Results: The hypothesis was only partially supported. Significant differences across survey administration periods were evident on only two of six outcomes: the Cynicism and Professional Efficacy subscales of the MBI-GS ($p=0.018$ and $p=0.011$, respectively). A secondary exploratory analysis of gender found that, while several of the outcomes had main effects for gender, this effect did not differ significantly across survey administrations. The gender difference in the second administration approached, but did not reach, statistical significance on one outcome (Cynicism from the MBI-GS).

Discussion: The broader medical community and medical education faced many hardships during the COVID-19 pandemic (3,4). However, the fact that significant differences in stress, burnout, and well-being were evident in only two of six outcome measures suggests some degree of resilience in medical students. Findings of elevated cynicism and diminished professional efficacy are concerning, however. It remains unclear whether these findings reflect a transient or more enduring change. Although our findings may be due to the stress of the COVID-19 pandemic, other historical confounds during the study period may also contribute (e.g., a contested presidential election and contentious political environment, civil unrest associated with an emergent social justice movement, climate change, etc.).

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-17

Title: Racoon to Autoimmune: A Rare Case of Gardner-Diamond Syndrome

Presenting Author: Taylor Carter, OMS IV, Edward Via College of Osteopathic Medicine (VCOM) at Auburn

Additional Author(s): Dr. Evan Chavers, M.D., PGY-2, Department of Psychiatry, USA College of Medicine

Introduction/Background: Gardner-Diamond Syndrome (GDS), otherwise known as psychogenic purpura or auto-erythrocyte sensitization disorder, is an extremely rare syndrome characterized by spontaneous, painful and/or edematous skin lesions that generally progress to ecchymosis (1). GDS may be associated with comorbid psychiatric pathologies, but most often presents acutely following a period of extreme stress or emotional trauma (1). The etiology of Gardner-Diamond Syndrome is not currently well understood, but it hypothesized to arise from autoantibodies directed towards components of erythrocyte stroma, deoxyribonucleic acid, hemoglobin, and phosphatidylserine that are identified on the erythrocyte membranes (2). This has been demonstrated via indirect immunofluorescence revealing greater than 50% of phosphatidylserine, a cell marker signaling for eryptosis, on the outermost membrane leaflet of erythrocyte cells in patients' blood samples diagnosed with GDS (2). Even though not fully understood, the intricate interplay between psychosocial factors and the development of GDS highlights the complex relationship between emotional stress and trauma, autoantibody responses, and the physiological manifestation of painful skin lesions, shedding light on the multifaceted nature of this rare disorder and potential implications this has on understanding the brain-body connection.

Description: The patient is a 25-year-old female with a past medical history significant for Gardner-Diamond Syndrome diagnosed in 2/2022 after suffering a bite by a rabid raccoon who presents to the USA ED in 7/2023 complaining of painful ecchymosis on right lower extremity. The patient's pain subsequently spread cephalad to include areas of the patient's right abdomen, right upper extremity, and right side of the face. The patient reported associated symptoms of blurred vision in the right eye. The patient was previously evaluated at Mayo Clinic due to an episode of right sided blurry vision accompanied by black dots throughout her visual field. A subsequent MRI revealed negative findings. Upon discharge from Mayo Clinic, the patient was started on hydroxychloroquine 200 mg twice daily, prednisone 20 mg daily, and Bactrim for a diagnosis of GDS. She was later started on Celexa 40mg QD by a local psychiatric NP. On the day of admission to USA University Hospital, the patient states that she woke up with acute, worsening of pain without relief with current home medications. The patient also reported nausea, multiple episodes of vomiting secondary to pain, and decreased oral intake. The patient's care plan while hospitalized included continuing home medications, including Percocet 7.5 mg three times daily, and adding Diluadid 2 mg every 4 hours as needed for severe pain and Zofran as needed for nausea and vomiting. The hematology-oncology service was consulted to rule out medical causes of symptoms and indicated that a diagnosis of GDS was likely accurate. Psychiatry was consulted and diagnosed the patient with PTSD, MDD, and GAD. She was discharged with prescription for Prazosin 1mg QHS for nightmares, Trazodone 100mg QHS for insomnia, and Celexa 40mg QD with plan to follow up with Psychiatry for therapy and medication management.

Discussion and Conclusion: Gardner-Diamond Syndrome is an extremely rare psychiatric-associated diagnosis with dermatologic and hematologic properties which is diagnosed via clinical suspicion from patient's presenting signs and symptoms, and through exclusion (3). This patient, although previously diagnosed with GDS by Mayo Clinic, was confirmed to have GDS at USA based on her symptoms that were unexplained by other medical causes, and negative hematologic and dermatologic work-up. Although there is no specific treatment for GDS, treatment should be aimed at (A) controlling patient's pain and hematologic symptoms, (B) early intervention into symptomatic episodes to reduce hospitalizations in patients with GDS, and (C) psychosocial support and therapy to address the underlying trauma or stressors (4). Incorporating the psychosomatic connection, the diagnosis and management of GDS emphasizes the need for a comprehensive approach that address both dermatologic and hematologic aspects, alongside the crucial role of psychosocial support in mitigating the impact of the underlying trauma or stressors on the syndrome's development and progression and improving quality of life for the patient.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-18

Title: Impulsivity and Addiction as Risk Factors for Amphetamine Induced Psychosis: A Case Report

Presenting Author: Griffin Gillespie, OMS-4, Edward Via College of Osteopathic Medicine - Auburn

Additional Author(s): Luke Engeriser, MD, USA College of Medicine, Altapointe Health

Introduction/Background: Generally a feature of substance use disorders, personality disorders, and attention deficit/hyperactivity disorder (ADHD), impulsivity remains a therapeutic target in the treatment of many common psychiatric conditions [1]. Research has shown stimulant medications, such as amphetamines and methylphenidate, reduce impulsive behaviors in patients with ADHD [2]. However, in patients with ADHD and substance use disorders, research has shown impulsive behaviors to be more pervasive, supporting that these patients may be more vulnerable to impulsions [1,3].

Description: A 37 year old male with a past psychiatric history of ADHD and alcohol use disorder was brought to an inpatient psychiatric facility with increased anxiety and paranoia. He reported to have consumed 120-180 mg of lisdexamfetamine dimesylate, two to three times his prescribed dose, per day for almost two weeks. The patient stated that he was consuming alcohol at the time he began taking more of his medication. On evaluation, the patient endorsed auditory and visual hallucinations, displayed disorganized thought content, and thought blocking. The patient reported increased feelings of impulsivity during this time: a desire to consume high doses of his medication, interacting with conspiracy theories on social media, and acting on hypersexual thoughts. The patient was initially observed to allow for amphetamine washout, but after two days the patient continued to report hallucinations, and risperidone was started. With antipsychotic treatment, the patient showed improvement in thought content, insight, and psychotic symptoms.

Discussion and Conclusion: It is well known that patients diagnosed with ADHD are more likely to develop substance use disorders and are more vulnerable to impulsivity [4]. This case highlights the importance of research aimed at understanding the risk stratification of treatment in patients with disorders that may affect their impulse control. Further research must also be done on effective medical therapies for co-occurring ADHD and alcohol use disorders, as there is limited evidence and literature for isolated medications that improve symptoms of both disorders concomitantly [4,5]. Medical therapies that can effectively treat ADHD and alcohol use disorder while minimizing adverse effects of misuse are crucial for patients who experience acute impulsions due to these disorders.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-19

Title: Neutrophil Demargination-Induced Falsely Elevated Absolute Neutrophil Counts (ANC) in Patients Simultaneously Undergoing Electroconvulsive Therapy (ECT) and Clozapine Treatment

Presenting Author: Dr. Alexandria Hutchison, PGY2, Mississippi State Hospital Psychiatry Residency Program

Additional Author(s): Dr. Deewan Bulchandani, Mississippi State Hospital Psychiatry Residency Program; Dr. Zachary Robinson, Mississippi State Hospital Psychiatry Residency Program

Background: Clozapine, a second-generation antipsychotic, is known for its efficacy in treatment-resistant schizophrenia and is associated with agranulocytosis, requiring regular monitoring of absolute neutrophil count (ANC). Electroconvulsive therapy (ECT) is employed for various psychiatric disorders, often in conjunction with pharmacotherapy. Neutrophil demargination, a reversible process where neutrophils shift from the marginal pool to the circulating pool, can lead to transient increases in peripheral neutrophil counts thereby confounding ANC interpretation

Objective: This case series investigates the occurrence of falsely elevated ANC due to neutrophil demargination in patients undergoing ECT with concomitant clozapine treatment and explore clinical monitoring implications.

Methods: A retrospective review of medical records was conducted on patients receiving ECT and clozapine treatment. ANC values obtained post-ECT were compared to baseline counts to identify cases of transient ANC elevation. Medical histories and concurrent medications were reviewed to assess potential factors contributing to neutrophil demargination.

Results: Among the analyzed cases exhibiting transiently elevated ANC levels following ECT sessions, neutrophil demargination was identified as the likely cause. Co-administration of clozapine was a consistent factor in each case. No severe clinical consequences were observed due to the transient increases.

Conclusion: The concurrent use of clozapine and ECT appears to contribute to neutrophil demargination-induced falsely elevated ANC levels. While this phenomenon may trigger unnecessary clinical interventions, awareness and careful evaluation of the temporal relationship between ECT sessions, clozapine dosing, and ANC measurements can aid in distinguishing genuine agranulocytosis from benign neutrophil shifts. Clinicians should be vigilant in interpreting ANC results in this context to prevent undue treatment modifications.

Keywords: Neutrophil demargination, absolute neutrophil count, ANC, electroconvulsive therapy, ECT, Clozapine, agranulocytosis, psychiatric treatment, treatment-resistant schizophrenia

Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-20

Title: Hyperthyroidism in a patient with schizoaffective disorder, bipolar type on Lithium: A Case Report

Presenting Author: Hannah Richard, DO, PGY-1, Mississippi State Hospital

Additional Author(s): Mariah Bohl, MD, PGY-1, Mississippi State Hospital; Kirtida Desai, MD, Core Faculty, Mississippi State Hospital

Introduction/Background: It is easy to associate increased agitation and anxiety with a patient's primary psychiatric disorder; however, it is important to consider primary medical conditions when there is a change in a patient's behavioral baseline, especially when physical signs and symptoms are present. This is particularly important in the case of polypharmacy where extensive side effect profiles and potential drug-drug interactions are of concern. Routine labs and health screenings are important for all psychiatric patients and could help assist in a treatment regimen that will best optimize both physical and mental health.

Description: We present a case involving a 56-year-old African American male with a longstanding history of a schizoaffective disorder, bipolar type. His concurrent diagnoses include personality disorder with antisocial and passive aggressive traits, as well as hypertension and constipation. This patient has been intermittently under the care of inpatient psychiatric services for over two and a half decades due to behavioral disturbances in the community. The length of service during his most recent admission is over four consecutive years. His psychotropic medication regiment included a combination of Lithium, Depakote, Zyprexa, and Haldol Decanoate. His other routine medications included Norvasc, Colace, and Miralax.

During an annual physical evaluation, this patient presented with weight loss, increased anxiety, tremors, worsening hypertension, and an increased baseline heart rate. On collection of routine screening labs, his lithium level returned within normal limits at 1.10 mmol/L, and TSH was measured twice at <0.015 u[iU]/mL. Six months prior, this patient's TSH was measured within normal limits at 3.5 u[iU]/mL. Follow-up labs including thyroid peroxidase antibodies, thyroxine levels, and thyroglobulin antibodies all returned within normal limits. A thyroid ultrasound discovered a 6 x 3 mm solid nodule. The nodule was further worked up and a thyroid uptake scan was significant for suppressed iodine uptake, "most suggestive of subacute thyroiditis" per radiology report.

In response to the patient's subacute thyroiditis, lithium was immediately tapered off over the span of two weeks. A week following the medication's discontinuation, the patient's TSH had increased to 0.32 u[iU]/mL, falling just below the recommended reference range. No other direct TSH altering interventions were pursued; therefore, the change in lithium was the only treatment related factor in the TSH improvement.

Discussion and Conclusion: Lithium is an agent well-known to cause hypothyroidism. It has even been studied as an adjunctive agent with radioactive iodine therapy for hyperthyroidism. Therefore, having a patient present with classical hyperthyroidism while taking lithium is an intriguing occurrence. While it is a rare, this paradoxical phenomenon has been described in the literature as case reports of patients with bipolar disorder. However, some of these reports have a combination of lithium toxicity levels and thyrotoxicosis. Our presented case provides evidence that hyperthyroidism can occur despite a patient being within normal therapeutic levels of lithium. Therefore, physicians should be aware of both hyperthyroid and hypothyroid symptoms that may occur in patients taking lithium. In addition, it is important to routinely screen a patient's thyroid functioning while taking this medication.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-21

Title: Efficacy of Gamified Digital Mental Health Interventions to Treat ADHD, Depression, and Anxiety in Children and Adolescents

Presenting Author: Barry R. Bryant, MD, PGY3, Johns Hopkins University School of Medicine, Department of Psychiatry and Behavioral Sciences

Additional Author(s): Morgan R. Sisk, BS, University of Alabama at Birmingham Heersink School of Medicine; Joseph F. McGuire, PhD, Johns Hopkins University School of Medicine, Department of Psychiatry and Behavioral Sciences

Introduction/Background: Approximately one fifth of children and adolescents suffer from a mental health condition. Anxiety disorders, depressive disorders, and attention-deficit hyperactivity disorder (ADHD) are among the most common pediatric mental health conditions. There are considerable limits on the accessibility, availability, and scalability of current evidence-based treatments. Gamified digital mental health interventions (DMHI) comprise one promising approach to overcoming these challenges. Feasibility studies suggest that gamified DMHI can increase engagement relative to traditional therapies for children and adolescents. In this study, we examined the therapeutic effects of video-game based (i.e., "gamified") DMHIs for pediatric anxiety, depression, and ADHD.

Methods: We conducted a systematic search for randomized controlled trials (published before 4/7/2023) using a gamified DMHI to reduce ADHD, anxiety, and/or depressive severity in young people under the age of 18 years old. Articles were excluded from the analysis if they did not have a control condition, did not utilize a digital game, did not provide sufficient data to calculate effect sizes, or were not available in English. We performed a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) compliant systematic review and meta-analysis to examine the therapeutic effects of the gamified DMHI for common pediatric mental health conditions.

Results: Our analysis included eight articles addressing ADHD, eleven for anxiety disorders, and six for depressive disorders. Preliminary evidence suggests that Gamified Digital Mental Health Interventions have a modest therapeutic effect for treating ADHD ($g=0.29$, $p<0.001$) and Depression ($g=0.26$, $p=0.02$) in children and adolescents. No significant therapeutic effect was found for treating anxiety disorders ($g = 0.20$, $p = 0.16$). For each of the conditions being treated, there was significant heterogeneity of therapeutic effects between different studies and their corresponding gamified interventions.

Discussion: Our findings will allow clinicians to make informed recommendations to patients and their parents regarding the efficacy of using gamified DMHIs as part of a comprehensive mental health treatment plan. Our preliminary evidence suggests that gamified DMHIs can be efficacious for treating ADHD and depression. With the existing barriers to evidence-based treatment for common pediatric mental health conditions, gamified DMHIs may play a significant role in improving accessibility to mental healthcare.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-22

Title: Somatization and Care Team Irritation: Strategies to Manage Illness Anxiety Disorder During an Inpatient Admission

Presenting Author: Nicole Matis, MS-4, USA College of Medicine

Additional Author(s): Evan Chavers, MD, USA College of Medicine, Department of Psychiatry

Introduction/Background: Health anxiety is frequently characterized by excessive attention to normal bodily sensations that are misinterpreted to be indicative of severe disease [1]. Affected individuals often are reassurance seeking and perform recurrent checking behaviors which perpetuates maladaptive responses to non-pathologic symptoms. An estimated 13% of the general adult population exhibit clinically significant health anxiety [2]. It is well established that illness anxiety disorder has significant negative impacts on well-being, social and occupational functioning, and health care resource utilization [3]. Management is typically focused on frequent outpatient follow-up to build a therapeutic alliance with utilization of cognitive behavioral therapy; however, there are no clear guidelines to address these patients during medical hospitalization in a way that provides optimal care and minimizes systematic burden. This case identifies barriers to hospital evaluation of patients with illness anxiety disorder and highlights potential strategies and shortcomings to management in the inpatient setting.

Description: A 40-year-old male with a history of epilepsy and depression presented to the emergency department due to concern for worsening seizures and medication side effects. Patient had been on anti-epileptic medication since enduring a TBI in childhood but never received confirmatory testing. On initial evaluation, he made bizarre statements regarding various medical complaints, appeared hyperverbal, and fixated on somatic concerns. Per assessment from neurology, his description of seizures was inconsistent with organic etiology, and EEG was unremarkable for epileptic activity during a clinical event. Throughout hospitalization, patient frequently endorsed somatic delusions, nonsensical symptoms, and health-related anxieties inconsistent with understood physiology to both primary and consulting teams. Patient was instructed to write all nonurgent complaints on paper to present to the primary team during rounds in an effort to establish trust and maintain boundaries; however, his somatic complaints and illness anxiety persisted. Zyprexa was initiated with unappreciable improvement in symptoms.

Discussion and Conclusion: The many somatic complaints and excessive worries in individuals with illness anxiety disorder pose a significant challenge to inpatient care teams. A comprehensive medical evaluation and psychiatric assessment are necessary to holistically characterize a patient's presentation and concerns, but limit-setting and ensuring clear communication about lack of indication for further testing or treatment are essential parameters [4]. This case illustrates the importance of a multidisciplinary approach to target pathological health anxiety. The inpatient setting is unlikely to provide a necessary therapeutic duration to detect improvement in symptoms, but efforts to establish rapport and encouragement to seek and continue outpatient care may be beneficial. Possible psychiatric strategies in response to health concerns include integrating CBT protocols into medical care and decision-making which can minimize medical work-up, reassurance, and reactive medication changes [5].

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-23

Title: A Case of Cannabis Induced Hyperemesis

Presenting Author: Fizza Mahmood, MS-3, UAB Heersink School of Medicine

Additional Author(s): Clinton Martin, MD, UABHSOM Psychiatry Department

Introduction/Background: Lifetime use rates of cannabis more than triple between adolescence (15.8%) and young adulthood (51.7%) in the U.S.1 Often, cannabis compounds are utilized to provide a sense of relaxation, which may temporarily alleviate anxiety symptoms, leading to risk for overuse to treat underlying anxiety. However, overuse can result in the development of cannabis hyperemesis syndrome, characterized by severe nausea, vomiting, and abdominal pain.2 This condition can paradoxically worsen anxiety and create other health concerns, so it is essential to consider these discussions early on with younger patients.

Description: An 18-year-old male with history of asthma presented to the emergency department with dysphagia and abdominal pain. He described sustained weight loss. He also admitted to drinking heavily but had stopped recently due to worsening abdominal pain and repeated vomiting. Day prior to admission, he was seen at a different ER and discharged with Zofran which did not help his symptoms. On day of admission, he continued to have abdominal pain and presented acutely due to 2 episodes of blood-tinged emesis.

Throughout the course of his hospital stay, he was evaluated by GI with colonoscopy which was significant for mild gastritis. He also received an MRI to rule out a brain tumor. AM cortisol and thyroid function were both normal. Urine culture ruled out UTI. GC/CT PCR was also negative. During this extensive workup, discussions with the patient eventually revealed undiagnosed anxiety which was being self-medicated with THC five times a day. The patient was consequently diagnosed with Cannabis Induced Hyperemesis and instructed to follow up for anxiety treatment and referral to psychiatry.

Discussion and Conclusion: Anxiety disorders in the pediatric and young adult populations are frequently underdiagnosed for reasons including stigma around discussing mental health, barriers to transparency with children, and limited access to mental health services.3 As society experiences both a shift in attitudes toward substances like marijuana and increasing availability, healthcare providers face a growing responsibility to engage in more in-depth conversations with their young adult patients. Providers can play a pivotal role in educating patients about the potential risks and benefits of substances, while also offering guidance on mental health treatment options.

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Southern Psychiatric Association and Alabama Psychiatric Physicians Association

2023 Student/Resident Poster Presentation

Abstract 23-2-24

Title: Auto Extraction of permanent teeth a case report

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Introduction/Background: Nonsuicidal self-injury involves deliberate self-harm without suicidal intent and is likely to induce bleeding, bruising, or discomfort (DSM). NSSIB has a typical onset around 12-14 years old (King) and is primarily associated with the desire to alleviate intense negative emotions (Klonsky). However, such behavior may be related to underlying physical discomfort or various conditions such as Lesch-Nyhan syndrome, congenital insensitivity to pain with anhidrosis, Cornelia de Lange syndrome, autism spectrum disorder, or obsessive-compulsive disorders (Limeres). Among the methods of NSSI in children, dental self-extraction is infrequent in the literature. Here, we present a case involving auto extraction of multiple teeth.

Description: An 8-year-old male with a history of ADHD, PTSD, ODD, anxiety, and depression presented due to worsening NSSI involving auto extraction of primary and permanent teeth. He had six teeth remaining and was utilizing his fingers, bedframe, and a screwdriver to pull his teeth. The patient reported that upon feeling anxious, he would develop pruritus in his teeth and ultimately remove them “to prevent something bad from happening.” Associated episodes occurred while taking an exam, spending time with a perpetrator of prior physical abuse, and being alone in his room. The patient denied associated dental pain. A workup for dental abnormalities and unspecified sensory processing issues was negative. His medication regimen was adjusted, with no significant improvement noted upon stimulant discontinuation or switching from Risperidone to Aripiprazole. He received in-home therapy, decreased interaction with the perpetrator of his prior trauma, and psychotropic medications: Sertraline 125 mg daily, Trazodone 50 mg QHS, Viloxazine 200 mg daily, and Prazosin 1 mg QHS.

Discussion and Conclusion: Atypical responses to sensory stimuli, as seen in children with autism, was attributed to a similar case involving autoextraction and dental pruritus (Ross-Russell). Painful burn treatment (Keles) and prolonged emotional stress (Gantha) have also been found in individuals with self-inflicted dental trauma. In our case, the mechanism appears compulsive in nature and similar to the body focused behaviors of trichotillomania and excoriation disorder. Obsessive compulsive disorders can be associated with both sensory phenomena and significant anxiety (DSM). However, an underlying sensory integration disorder cannot be ruled out, given the denial of associated pain with extraction. This case serves as a reminder of the wide range of diagnosis to be considered when evaluating NSSIB.

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