

First Episode of Psychosis Associated with Multiple Life Stressor Events Within a Short Period of Time.

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Abstract

19 y/o male PMHx of asthma, who lives with his mother, presented BIBEMS after activation by pts family for aggressive disorganized behavior with hallucinations. Pts family members (mother, aunt) state that pt was assaulted a day prior by an unknown assailant, with notable ecchymoses surrounding the left eye, and had never had any psychiatric hx or episodes like this in the past. Pts mother also disclosed that the pt within the last 3 months had been having trouble coping with the death of one of his aunts, and a close friend, as well as a number of his friends, moving away to Florida after graduating high school which he still has yet to graduate from. Pts mother also disclosed that pt had been having issues with resentment towards his older brother, who has been very successful in life. PT's family members additionally described PT's condition prior to EMS arriving, as erratic, responding to internal stimuli, destroying property within the home (TV's, Mirrors, etc.), and tearing off his clothes. Additionally, per family, pt had been complaining to them of "hearing voices", not being able to sleep well, and paranoid behavior. Pts family members disclose that pt has used marijuana in the past, but that when using, had never reacted this way. Pt himself disclosed having a hx of using Percocet pills illicitly.

Introduction

This case report serves to illustrate the occurrence of new-onset episodes of psychosis and psychiatric illnesses in patients affected by multiple stressor events occurring within a short period of time and with no prior history of psychiatric episodes or illnesses in the past. As has been long theorized, stressful events in a person's life whether they be emotional, mental, medical, or physical, have been known to

lead to psychosis in the form of brief episodes, or long-term illnesses [1]. This case serves as an example of an individual at a young age, who when affected by multiple life stressor events of various different forms, and no past psychiatric history of illnesses or episodes, presented to the hospital after exhibiting acutely psychotic and manic symptoms of which he has never exhibited before.

Case Presentation

This is the case of a 19 y/o African American male PMHx of asthma, who lives with his mother, presented after BIBEMS after activation by pts family for aggressive disorganized behavior with hallucinations. Pts family members (mother, aunt) state that pt was assaulted 2 days prior by 3 other people and had returned to the home after the incident with notable ecchymoses surrounding the left eye. Pt was very agitated at the home, started throwing things, and then went to his aunt's house. Pts aunt, reports that when the pt arrived, he started saying "crazy things" like "having a lot of money". Pt returned to his mother's house the next day at around 0800, and was pacing around the house, mumbling to himself, and reported that "people were watching him" and that there were "cameras all around". Further history obtained disclosed that within the last 3 months, pt had been

having trouble coping with the death of one of his aunts, and a close friend, as well as a number of his friends, moving away to Florida after graduating high school which he still has yet to graduate from. There were also resentment issues by the pt towards his older brother, who has been very successful in life. Pts condition prior to EMS arriving, was described as erratic, responding to internal stimuli, destroying property within the home (TV's, Mirrors, etc.), and tearing off his clothes. Additionally, per family, pt had been complaining to them of "hearing voices", not being able to sleep well, and paranoid behavior. Pts family members disclose that pt has used marijuana in the past, but that when using, had never reacted this way. Further history obtained by the pt, elicited a disclosure of having a hx of using Percocet pills in the past. Urine toxicology was positive for THC, but

negative for any other illicit drugs including amphetamines, cocaine, opioids, and barbiturates. Upon arrival to the ED, pt was extremely agitated, aggressive, and throwing punches as well as kicking an oxygen tree off the wall. Pt was sedated and evaluated with labs, imaging, and psychiatric consultation.

CT head w/o contrast showed evidence of left medial blowout fracture and left ethmoid fractures which the pt was seen by and followed up with ophthalmology for and treated accordingly. After medical clearance of all labs and imaging studies, pt was transferred to the psychiatric emergency department and eventually the in-patient adult psychiatric unit. Pt started treatment with Lithium 300mg PO BID due to substantial evidence of Bipolar Disorder Manic symptoms and Olanzapine 5mg PO BID for further stabilization of the pts agitation and psychotic symptoms. Pts medications were eventually increased for more optimal control and coverage of symptoms to

Discussion

The development of psychiatric illnesses following traumatic and stressful life events is a topic that has been debated quite extensively. Research has been done to look for evidence of neuroepigenetic links between changes in DNA methylation and Histone modification after stressor events such as the types seen in this case presentation [1]. It has been widely acknowledged that such epigenetic changes during fetal development can occur and affect an individual's health and function, but more evidence is available to show that such changes can also occur after development due to external stressor events [1]. One of the more widely studied epigenetic alterations that have been seen to occur due to early life stress events are changes in the expression of Glucocorticoid Receptor genes (Nr3c1) [1]. Changes in GR expression levels influence the HPA axis function and negative feedback loop that plays a role in terminating the stress response [1]. Such changes have been shown to occur due to increased DNA Methylation, which has been related to increased or decreased rates of GR expression [1]. Other epigenetic alterations that are currently undergoing further research are the effects of early life stress events on HPA regulatory hormone AVP, BDNF protein expression, Serotonin transporter gene 5-HTT, and modifications in the promoter

Conclusion

With more research being done on the effect external stressors or traumatic life events have on the development of new-onset psychiatric episodes and long-term illnesses, psychiatric specialists can have hope of being more proactive vs reactionary in time. Screening pts for psychiatric symptoms after a physical, and mental trauma, as well as emotional trauma, can give health care providers

Lithium 450mg PO BID and Olanzapine 15mg PO at night. With continued medication compliance of his scheduled medications, pts demeanor gradually changed. Pt became more relaxed, insightful about his family dynamics and overall behavior towards his family during his episode of psychosis, and even began to express plans to address certain issues he had with his family members such as his brother and his mother. Pt expressed no behavioral issues on the adult in-patient psychiatric unit, and with compliance of medications, didn't experience any other hallucinations, aggressive or agitated episodes, or delusions of grandeur that he had been experiencing previously. Upon discharge, pt agreed to continue to take his medications, expressed interest in attending therapy with his family members, and spoke at length about quitting the use of the illicit drugs he had a history of using (Marijuana and Percocet pills).

regions of genes that code for enzyme synthesis of GABA and Glutamate receptors [1].

Additionally, adverse stressor events that occur during childhood development, carry an increased risk of leading to psychiatric illnesses [2,5]. Using PTSD as an example, a psychiatric condition that occurs as a result of a traumatic stressor in a patient's life, risk factors for developing the condition include younger age at the time of trauma, lower socioeconomic status, lack of social support, and premorbid personality characteristics to name a few [3]. Evidence of gene polymorphisms in response to the number of stressor events has also been found [3]. In addition to the development of a psychiatric illness due to stressor events, the use of illicit substances such as marijuana during or leading up to the psychotic episodes has been shown to exacerbate and worsen psychotic symptoms such as hallucinations and paranoid delusions [4,6]. Alternatively, the likelihood of developing PTSD is increased in pts who either develop or are predisposed to developing Bipolar Disorder either genetically during development, or epigenetically in response to external stressor events [1,7].

an idea as to how much a person may be progressing toward developing a psychiatric illness, if at all. A well-detailed history of subjectively traumatic stressor events in the absence or addition of any organic medical cause, along with a history of substance abuse, can provide an etiology for a new-onset episode of psychosis or long-term psychiatric illness.

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