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# PERSECUTORY DELUSIONS: A DISCUSSION ON ETIOLOGY, TREATMENT, AND POSSIBLE LINK TO POST-TRAUMATIC STRESS DISORDER: A CASE REPORT

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## ABSTRACT

Delusions are defined as fixed beliefs that do not change even in the face of evidence that points to the contrary. As outlined in the Diagnostic and Statistical Manual of Mental Disorders V, delusions may take on themes such as persecutory, referential, somatic, religious, grandiose, and can even vary in terms of believability. This case report discusses a 39-year-old male patient with unspecified psychotic disorder and diabetes mellitus type I who endorses an elaborate persecutory delusion that has been present for several years. The report then delves into possible etiologies and therapy for delusions. Finally, a possible link between delusions causing post-traumatic stress disorder (PTSD) is explored.

## INTRODUCTION

Delusions are not always exclusive to preexisting psychiatric disorders. There is evidence that the rate of delusional beliefs is higher than the rate of psychotic disorders, where 10-15% of the non-clinical population has regular delusional ideas that may involve paranoid thoughts (Freeman, 2007). Especially since information gathering via technology has become more prevalent, whether it be from government agencies or your neighbor, it is not uncommon for the layperson to experience a loss of privacy. World events often affect subjective perceptions as well; the increasing rate of terrorist attacks has served to create a baseline level of fear and awareness. Through a combination of external stimuli and internal response processes, these individuals perseverate on their beliefs. Delusional disorder, similar to schizophrenia, occurs more commonly in socially disadvantaged individuals and is also seen more in immigrants, which can make it even more difficult for people to seek help (Kendler, 1984). While delusions do not destroy social ability in patients, they can cause interpersonal conflict between people (Winokur, 1977). For example, a man may be chronically jealous of his romantic partners under the delusion that they are always unfaithful, or a community member may believe that the neighborhood kids are poisoning his water. These delusions can become severe enough to encroach on other facets of the patient's life and possibly affect the patient's ability to function. One potential outcome is post-traumatic stress disorder, where stimuli of psychotic trauma lead to re-experiencing and autonomic hyperactivity. The anxiety produced by vivid memories of a delusion can result in a severe stressor (Shaner, 1989). The incidence of delusional beliefs of the general population coupled with its seemingly benign presentation and potential traumatic effects on the patient highlights the importance of examining the mechanism behind the formation of delusions, possible treatments, and the link between delusions and post-traumatic stress disorder.

## CASE PRESENTATION

Mr. S is a 39 year old white male with a past medical history significant for unspecified psychotic disorder, post traumatic stress disorder, depression, anxiety, diabetes mellitus type I, and hypothyroidism. He presented to the psychiatry team for overdosing on his insulin. The patient stated that over the weekend he heard loud parties in his neighborhood, which prompted him to check in at the CRC over fears that the noise will trigger his PTSD. Upon initial interview the conversation shifted and devolved. The patient described a sequence of events that first began with him meeting his future ex-wife over a dating app called 'Let Me See You.' In this narrative, the patient describes that his wife… was adopted and Sri Lankan, and through unspecified reasoning, they ended up in Sweden for four years (he returned in 2014). In Sweden, he was attacked and shot at by a Syrian terrorist named Mahmoud. He learned that his ex-wife was involved in a conspiracy to kill him, though she denied involvement and said he was hearing voices. Mr. S was then sent to a hospital and Sweden bought him a ticket to go back to the United States. He moved to Cheney, Washington where he believed that he was followed there. He has contacted the FBI, CIA, local police and Interpol to warn them about the Syrian terrorists to no avail. Upon asking him why these terrorists are after him, he replied "I have no idea." No one else has heard them besides the patient. He described an instance when he was in his hotel room and could hear the terrorists conspiring above him. When we asked him whether anyone else has ever seen Mahmoud, Mr. S brought up a time when he and his friend were at a bar and they both saw him across the pool table. He attributed his PTSD to the events that transpired in Sweden.

We asked him again to clarify why he was petitioned by the CRC. The patient stated that he became upset with the time it was taking to have his evaluation and he gave himself 15 units of insulin, causing his blood glucose level to drop into the 50's, thereby demonstrating danger to self. He later expressed delusions of being followed and thought he heard neighbors above him speaking; he suspected that they were part of the terrorist group that is following him. Per emergency department note from a month prior, he has been feeling anxious recently because an 'Arab' moved into his apartment complex. Also about a month ago, psychiatry was consulted because he was on an emergency Title 36 application alleging danger to self because he had cut himself superficially a few days prior while intoxicated with alcohol. During this prior petition, he admitted to being suspicious of his partner in most relationships, to the point of going through their belongings to look for evidence of infidelity. He denied intention of harming his persecutors, other than "what I can do legally."

Upon mental status exam, Mr. S is an adequately groomed male dressed in casual clothes whose appearance is consistent with his stated age. He was mostly cooperative, but became irritable when he learned that we would not discharge him the same day. He stated that he "had bills to pay." He had good eye contact. His mood was good and his affect was euthymic and congruent with his stated mood. His speech had a regular rate and rhythm; he spoke quite intelligibly and in long, complete sentences. His thought process was linear and logical except when discussing his delusions. He denied suicidal and homicidal ideation. He denied any auditory and visual hallucinations. The patient was oriented to date, place, person, and situation. His memory, attention and concentration were grossly intact. His fund of knowledge was adequate. He had poor insight and poor to fair judgment.

His past medications include quetiapine, buspirone, lamotrigine and prazosin. He uses marijuana 4-5x a month. He drinks "enough to get drunk" once a month. Other social history includes being in a gang in the past, and once threatening his father with a knife at the age of 10 because he "didn't like how he was treating his mother." During this current stay, he was given olanzapine 10 mg tablet/evening, clonazepam 1 mg PRN, prazosin 2mg/evening.

Mr. S was discharged the next day. While he was on unit, he was social, cooperative and pleasant to the staff. He has been following up with his outpatient provider and is compliant with outpatient medications. The patient denied SI/HI and denied access to firearms. He displayed

no aggression or paranoid behavior towards others and made no gestures of self-harm. We recommended an increase in dose of Zyprexa due to concern of his delusions. We also advocated for strict outpatient follow up with his psychiatrist.

## DIFFERENTIAL DIAGNOSIS

Given the patient's persistent persecutory delusions as well as the possible auditory hallucinations, along with reported depressed mood symptoms in the past, he most likely has a schizophrenia spectrum disorder, namely schizoaffective disorder. However, we are lacking a clear time frame as to when events occurred as well as collateral information from family members, friends and his outpatient psychiatrist. Other differentials include delusional disorder, which involves a persistent belief in the absence of other psychiatric or organic causes of delusions that does not affect the patient's function. This is a viable diagnosis in that the patient did not display any negative symptoms of schizophrenia, with the only positive one being delusion. He was very cooperative, well groomed and able to articulate his feelings clearly which made it appear that he is functional. Other differentials include bipolar type I with psychotic features and major depressive disorder with psychotic features. The former is unlikely in that he denied any history of manic episodes or anything that resembled mania. The latter is also unlikely considering the patient clearly believes in his delusion at the moment despite not being depressed. Secondary differentials include PTSD, anxiety disorder, and paranoid personality disorder.

## DISCUSSION

What appears striking is the demeanor Mr. S displayed when he told the treatment team with such conviction as to how he has been a target of domestic terrorism. He appeared to be an average Caucasian male who spoke normally and expressed his fears and anxiety in a rational manner. He displayed no other psychotic symptoms, positive or negative, nor did he present with any mood findings. In patients who have nothing but delusions, they have no depressive symptomatology, no sensorium difficulties, nor are they blunted or inappropriate in affect (Winokur, 77). This sparked the question: what is the mechanism behind this persecutory delusion? Freeman describes that beliefs are the result of an attempt to make sense of events that need explanation. The formation of a delusion first stems from internal feelings, such as having perceptual anomalies (illusions/ hallucinations), having feelings of significance, having an out of body experience, and being in an aroused, heightened state (Freeman, 2007). The second component involves external events such as non-verbal (facial expressions, laughter/smiling, movements, eyes) and verbal information (shouting, random snippets of passerby conversation). Finally reasoning processes develop the delusional content after incorporating the information. These internal and external events are viewed from the lens of the deluded individual's past experiences, emotional states, memories, knowledge, and decision-making. Often, emotional distress in history of difficult interpersonal relationships or isolation can result in suspicious thoughts and lead to individuals believing they are vulnerable and others are dangerous. This negative outlook is linked with anxiety and will lead to high levels of paranoia, resulting in a cycle that catastrophizes. Socioeconomic status and living in urban areas can exacerbate these negative views (Freeman, 2007). Persecutory delusions also are associated with decreased self esteem, where individuals employ a defensive attributional style and make internal attributions for positive events and external attributions for negative events (Lyon, 1994). What ultimately cements the delusion is a variety of biases in reasoning. For example, the individual may have deficient data gathering skills, resulting in jumping to conclusions, and a failure to come up with alternate explanations for experiences. They may also exhibit confirmatory reasoning bias, and by being socially isolated, there is less opportunity to review their paranoid thoughts and their suspicions become certain (Freeman, 2007). It becomes possible to theorize in our specific case that Mr. S initially suffered from anomalous internal experiences such as hallucinations, either from a schizophrenia spectrum disorder or drug use. Factoring in his past experience of being in a gang, he likely has a heightened state of arousal and draws upon past experiences of trauma to shape his outlook on the world. The patient also lives alone and has few friends. He likely misinterpreted external cues in Sweden, and in conjunction with internal stimuli and having suspicious thoughts, went down a spiral with his delusion of Syrian terrorists attacking him.

Due to the persistent nature of delusional beliefs, treating for this disorder can be difficult. One route would be pharmacological, where treating the underlying pathology such as schizophrenia or major depressive disorder with antipsychotic medication can alleviate this finding (Haddock, 1998). If the case is purely a delusional disorder, or if a delusion persists in someone being treated for schizophrenia spectrum disorder, cognitive therapy can be employed. The issue here is that the patient could likely be non-compliant with outpatient therapy because they may think that they do not have delusions and therefore have no reason to seek help. In dealing with these patients, it is paramount to establish a therapeutic alliance by not making any challenges or contradictions. The key is to walk a fine line between maintaining a non-confrontational attitude while asking appropriate questions (Turkington, 1998). Cognitive therapy has to first begin with peripheral questions that do not threaten the delusion or patient's self-esteem. Once a patient begins to be doubtful it is possible to employ 'inference chaining,' a method that works beneath the delusion and ask more penetrating questions that focus on emotional reactions. Belief modification can occur after sensitive question reduces patients' convictions (Haddock, 1998). A study of 12 outpatients that involved delusions of at least 2 years reported 5 had rejected their beliefs completely and 5 others reported a reduction in conviction after using a form of verbal questioning, belief modification and experimental reality testing (Haddock, 1998).

There have been several case studies that have examined the link between delusions and post-traumatic stress disorder. The first requirement of PTSD is experiencing an event outside the range of usual experience and would be markedly distressing to almost anyone (e.g. serious threat to one's life) (Shaner, 1989). Psychotic symptoms persecutory delusions can be fear-inducing to the point of trauma. This can lead to re-experiencing of the trauma and the PTSD can result in persistence of residual symptoms like social isolation, peculiar behavior, lack of interest. Curiously enough, 're-experiencing' the trauma could be interpreted as exacerbation of psychosis. It is possible that medications found useful in treating PTSD can be effective in relieving symptoms of postpsychotic PTSD, otherwise a cycle will result where environmental stressors will precipitate psychotic episodes because the individual is in a state of autonomic hyperreactivity (Shaner, 1989). This can ultimately help in our treatment of delusions and our understanding of the interplay between psychosis and PTSD. By recognizing that delusions, if traumatic enough, can cause PTSD, we can first address delusions through cognitive therapy and pharmacotherapy. That way, the symptoms of PTSD can be prevented and thereby prevent worsening delusions by controlling for anxiety. If an individual is already suffering from PTSD, such as in Mr. S's case, it would be best to provide pharmacotherapy treatment to manage his symptoms while providing cognitive therapy to decondition his arousal cues while tackling his delusional beliefs.

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