Suicidal behavior in schizophrenia: A case series

Suicide/parasuicide is seen at a greater rate in schizophrenia than in the general population, yet the psychological basis of this risk is poorly understood. It is estimated that 10% of patients suffering from schizophrenia attempt suicide. The major risk factors implicated are male gender, chronic illness with multiple relapses, family history of suicide, past suicidal and impulsive behavior, negative attitude toward treatment, and concurrent substance use. Treatment must target the identified risk factors for prevention of suicide in these patients. Here, we discuss three cases with self-inflicted cuts over the anterior aspect of the neck and wrists. They were diagnosed to have paranoid schizophrenia and were treated with antipsychotics, on which they showed improvement.

ABSTRACT

Suicide/parasuicide is seen at a greater rate in schizophrenia than in the general population, yet the psychological basis of this risk is poorly understood. It is estimated that 10% of patients suffering from schizophrenia attempt suicide. The major risk factors implicated are male gender, chronic illness with multiple relapses, family history of suicide, past suicidal and impulsive behavior, negative attitude toward treatment, and concurrent substance use. Treatment must target the identified risk factors for prevention of suicide in these patients. Here, we discuss three cases with self-inflicted cuts over the anterior aspect of the neck and wrists. They were diagnosed to have paranoid schizophrenia and were treated with antipsychotics, on which they showed improvement.

Keywords: Irritability, schizophrenia, self-inflicted cuts, suspiciousness

With its chronic course and debilitating nature, schizophrenia inflicts a great burden on patients, families, and society. Patients of schizophrenia are known to attempt self-harm due to commanding or threatening hallucinations, catatonic excitement, or associated depression. The lifetime risk of suicide in these patients ranges from 4% to 10%, although rates of parasuicide are higher between 25%-50%. The most common risk factors for suicide reported in this population are young males, early stages of the illness, high premorbid functioning, having multiple relapses/drug dropouts, depression, and previous suicide/parasuicide attempts. The 1st year of psychotic illness is considered to be a high-risk period. Substance misuse was seen to be seven times more likely to be associated with suicidal behavior. Studies suggest that cases of violent and self-harm behavior are higher in schizophrenia patients than in other patients. When it comes to certain positive symptoms, commanding/threatening hallucinations, and persecutory delusions/hallucinations have all been associated with increased risk of violence toward others/self in these patients. The subjective distress in such patients might be correlated with the violent behavior. Although self-harm has a stronger association with depression than with positive psychotic symptoms, there is some evidence to indicate that positive symptoms may also be implicated in self-harm and suicidal behavior. Substance misuse is common in schizophrenia as a form of self-medication to relieve the distress in around 40%-50% of patients as compared to 16% in the general population.
According to Kraepelin (1909), “Suicide, especially in the initial period of illness, is not infrequent and occurs, sometimes without any recognizable cause, also in patients who for a long time have been weak-minded and quiet;” and Bleuler (1911), “The most serious of all schizophrenic symptoms is the suicidal drive.”

**CASE REPORTS**

**Case 1**
A 40-year-old male patient was brought to the psychiatry outpatient department (OPD) of a tertiary care hospital with history of self-inflicted cuts over the anterior aspect of the neck with a blade. He was brought with complaints of irritability, apprehension, suspiciousness and fear that men were keeping a watch on him and wanted to kill him as he is infected with COVID-19. He was hearing voices of three men when nobody was around threatening to harm him. His sleep was disturbed. Symptoms were present for 6–8 months. The complaints were insidious in onset with a continuous course and gradually progressive. He was apparently alright 6–8 months back when he lost his job in the first lockdown. He was working in a road construction company and was the sole breadwinner of the family at the time. This along with the news and myths surrounding the COVID-19 infection affected him. His wife started noticing a change in his behavior. In the next couple of days, the wife noticed that he would be lost in thought and would get startled easily. On being questioned, he would snap at her, claiming she does not understand his thoughts. He would be found peeping out of his window, claiming authorities are catching hold of those with COVID-19 infection. Due to this, he would remain apprehensive for most of the day, getting easily irritable on the wife with the slightest provocation. This continued for the next few months, and the financial situation of the family was grim. In order to make ends meet, the wife started working as a part-time cook. Two months back, someone in their locality was diagnosed as COVID positive and was taken for isolation. On seeing this, the patient got very worried that he too might be taken away. Over the next few days, the patient refused to step out of the house, claiming there were 8–10 men outside his house who were keeping a watch on his actions. He could hear these men threatening to kill him by torturing him in explicit detail (tying him to a chair and dismembering him). They might also be infected with COVID-19 from his neighborhood, and these men had to curb the spread of the virus. These voices were very distressing to the patient, and he remained very fearful. He inflicted superficial cuts over his arms to calm his fear and anxiety down but to no avail. One day, without informing his wife, he left home and went to his friend's place, thinking the men would stop following and keeping a watch on him. He stayed there for a couple of days and resumed going to work off and on, but symptoms persisted. A few days later, on his way back from work, he felt that these men were chasing him. Rather than being killed by a group of thugs, the patient decided to end his life. With a piece of rusty blade, he made quick cuts over his neck and fell unconscious [Figures 1 and 2]. Onlookers rushed him to a nearby clinic where his wife was called and local dressing was done. He was then referred to a psychiatrist and hospitalized. A diagnosis of paranoid schizophrenia was made and he was treated with injection haloperidol 5 mg + injection promethazine 50 mg IM SOS along with tablet risperidone which was gradually increased to 6 mg along with tablet trihexyphenidyl 2 mg and the patient gradually improved.

**Case 2**
A 27-year-old male with past history of schizophrenia and family history of schizophrenia in both parents was brought by his uncle. The patient had an altercation with his neighborhood friends 10 days back. Since then, he was noticed to be muttering and smiling to self and he was fearful and used to say that people are coming to kill him. He used to get abusive without any provocation. On the night of admission, he had locked himself up, was shouting abusive words intermittently, but was not opening the door even when asked by relatives. In the morning, when his uncle broke open the door, he was found lying in bed with the bedsheet soaked in blood [Figure 3]. He had a deep incised wound on the anterior aspect of the neck with a knife near his hand. He was taken to the hospital and found to have an injured trachea [Figure 4]. On evaluation, here, it was noticed that people in the neighborhood were plotting to kill him (delusion of persecution) along with delusion of reference and commanding and threatening type of auditory hallucinations asking him to end his life or else...
they would kill him. With a diagnosis of schizophrenia, the patient was started on risperidone 3 mg/day and increased to 6 mg/day. His hallucinations disappeared and delusions resolved gradually.

Case 3
A 46-year-old male with no past or family history of psychiatric illness was brought by his son and wife to the psychiatry OPD. Around 30–40 days back, the patient had caught a female pickpocket in a bus. He had submitted her to the police. Since then, he had become withdrawn, muttering to self, and even avoiding stepping out of the house. He was fearful that some people would harm him and sometimes she used to say that the police are coming to catch him on charges of molestation. On the day of admission, he was restless, irritable and he locked himself up. Till the son broke open the door, he had already inflicted multiple incised wounds on his neck and wrists [Figure 6]. He was admitted to a hospital, and after stabilization on the 2nd day of hospitalization, the patient again inflicted incised wounds on the abdomen and wrist. Following this incident, the patient was transferred to the psychiatry ward. On evaluation, he had delusion of persecution regarding the girl and her relatives. He believed that the girl and her relatives were against him and police were also in cahoots with them. He was afraid that he would be apprehended and molestation charges would be filed against him. He also had auditory hallucinations of a female and the police threatening to come to seize him. With a diagnosis of schizophrenia, he was started on olanzapine 10 mg/day and gradually increased to 20 mg/day. His hallucinations disappeared and delusions resolved gradually.

**DISCUSSION**

As noted in the above cases, patients attempted to harm themselves in distress due to the positive symptoms of delusion of persecution/reference accompanied with threatening/commanding auditory hallucinations. Their positive symptoms were targeted with antipsychotics along with suicidal precautions taken and chemical restraints kept on an SOS basis. All three patients gradually improved
on the medications with their hallucinations eventually resolving and their delusions in remission.

As evidenced, people with a diagnosis of schizophrenia are at an 8.5-fold greater risk of suicide. Many studies have been conducted and risk factors recognized, but there has been little advancement in comprehending the etiopathogenesis of suicidal behavior in these patients. Various theoretical models of suicide have been identified. These include, among others, the overlap model which considers the influence of biological predisposition, family history, personality traits, psychiatric disorder, and the psychosocial environment (mainly social support); the interpersonal theory which proposes that the ability for suicidal behavior develops, through habituation and opponent processes, as a reaction to repetitive exposure to physically painful and/or fear-inducing experiences; the three-element model comprised predisposing factors, perpetuating factors, and suicidal threshold; the cubic model which considers the “stress” of external events, the “psychache” of unmet psychological needs, and the “agitation” of the state of distress; and the suicide trajectory model which focuses on the interaction between psychological, biological, cognitive, and environmental factors that lead to the “culmination” of suicidal thoughts and actions.

The increased risk for completed suicide in schizophrenia patients has been well reported. Data indicate that 5–10 patients in every 100 will end their life with previous incomplete suicide attempts increasing the risk for later completed suicide. Distressing psychotic symptoms might trigger suicidal attempt, especially among those already at risk for suicidal behavior.

Risk factors include male gender, younger age of onset, social isolation, substance abuse, depression/hopelessness, previous suicide attempt, and a family history of suicide. The initial period of illness, i.e. 5–10 years of diagnosis, multiple relapses, deterioration or repeated brief hospitalizations, and poor treatment compliance also contribute to suicide risk.

Suicidal ideation and behavior, however, poses a distinct configuration of threat to survival in that it is created from within and is directed toward the self. Positive symptoms are commonly characterized by threatening content and “externalization” (i.e. psychotic symptoms are often encountered outside or discrete from the individual). For example, delusion of persecution often includes beliefs about personal well-being, imminent risk, and the malicious intent of others to cause harm, injury, or death.

Auditory hallucinations also often include derogatory, threatening, or commanding remarks, by one or more voices, which have been known to direct patients to undertake suicidal or self-injurious behavior.

Risk of self-harm is 22.59%, out of which 10% had attempted suicide at least once. Around 40%–50% of schizophrenia patients claim to have had suicidal ideas in the past, 20%–50% have attempted suicide, and 4%–13% commit suicide eventually. Studies suggest that 9%–13% of patients with schizophrenia have completed suicide. However, in a recent review of this topic, the prevalence of completed suicide was found to be 4.9%, which exemplifies the multiple ways of expressing the rate of suicide.

According to Bleuler, suicidal drive is one of the most dangerous of all schizophrenic symptoms when positive symptoms must have been the notable symptoms of schizophrenia due to unavailability of antipsychotics (1911). Older antipsychotics appear to have minimal effect in reducing the suicidality among schizophrenia patients. Clozapine, the gold standard atypical antipsychotic, has been reported to reduce the suicide rate by 75%–85%.

CONCLUSION

Suicide is the major cause of death in schizophrenia, accounting for the death of about 10% schizophrenic patients. Hence, treatment modalities should include acute management with appropriate suicidal precautions and target the specific symptoms in order to reduce the distress and prevent the occurrence of suicide.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will
not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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