Aggression and Impulsivity in Schizophrenia

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Aggressive and impulsive behaviors in schizophrenia pose many clinical challenges. The best way to reduce the risk of aggression is with adequate treatment of schizophrenia.

Although the prevalence of violence is similar in psychiatric patients and in the general population, patients suffering from schizophrenia are often portrayed in the media as being unpredictably aggressive and impulsive. The result is increased stigmatization and poorer treatment outcomes. Multiple factors, including insufficient social support, substance abuse, and symptom exacerbations, can precipitate aggressive behavior. Moreover, failure to treat schizophrenic patients adequately is a major risk factor for aggression.

Aggressive behavior and impulsivity are often found in paranoid schizophrenia and can occur during both acute and chronic phases of the illness. Impulsivity is defined as action without planning or reflection, and it seems to be related to a failure of behavioral filtering outside of consciousness. Patients with schizophrenia may show dysfunctional impulsivity and impulsive aggression. Although the neurobiological aspects of aggression in patients with schizophrenia are still not well understood, impulsivity and aggression may correlate with frontal and temporal brain abnormalities. Psychotic symptoms, such as delusions and hallucinations, with subsequent suspiciousness and hostility, may result in aggressive behavior. Or, aggression may be impulsive and caused by an environmental frustrating event. Patients may be more aggressive and violent during acute episodes. Schizophrenic patients have less insight, experience greater thought disorder, and have poorer control of their aggressive impulses. Comorbidity with alcohol or other substances of abuse is frequent and complicates the agitation and the impulsivity. Among patients with schizophrenia, MDD, and bipolar disorder, the risk for homicide was found to be increased with comorbid alcohol abuse or dependence.

Assessment of impulsivity and aggression
McNiel and Binder categorized the risk factors for aggression into 4 sets of variables:
- **Demographic or personal:** history of violence, violent threats or fantasies, age, sex, history of child abuse
- **Clinical:** diagnosis, relevant symptoms, treatment adherence
- **Situational:** social support, availability of weapons
- **Physician:** the nature of the alliance with the patient, the potential cognitive bias of the evaluator

Assessment through clinical history still remains the most important way to gauge potential violent behavior in patients with schizophrenia, although it is still impossible to predict with any certainty whether a patient will become aggressive. Dysfunctional impulsivity can be assessed with many self-report questionnaires and several tests of cognitive ability (Table).

Clinical management of aggression
Because of the multidimensional etiology of aggression, making treatment decisions can be difficult. The underlying psychosis, poor impulse control, and comorbid substance use all need to be managed. In addition, the personality traits that may have contributed to the violent behavior need to be recognized. Hostility and aggressive behavior during psychosis can result when patients with a thought disorder or persecutory delusion perceive themselves as threatened. Patients with paranoid schizophrenic manifestations of suspiciousness, mistrust, and anger may be particularly challenging for clinicians who need to abstain from questioning the patient’s delusions.

Clinicians need to ensure that a safe place—for themselves and for the patient—is available where they can meet with the patient. In the emergency department, this can be particularly challenging if no dedicated space is available. A crowded place with many other somatic emergencies can impair proper management of aggressive and impulsive behavior. In such settings, administration of sedative agents is often the first-line approach, whereas when quiet rooms are available, there may be more space for collaboration between physicians and patients, leading to less invasive interventions.

Collaboration with the patient is crucial as is an experienced staff capable of handling difficult
situations. Staff should respect protocols and avoid any personal reaction to things that the agitated patient may do or say; in addition, the fewer the stimuli the better. When possible, the clinician should ascertain whether there is any substance and/or alcohol abuse. Violence by schizophrenic patients can be prevented if the patient is carefully monitored—before, during, and after hospitalization. More than 50% of patients hospitalized for a first episode of schizophrenia who had threatened others had displayed overt signs of illness for over a year. After discharge, there is an increase of violence risk: aggressions committed by persons with schizophrenia often occur within the first few months of hospital discharge. Once a patient with schizophrenia is discharged, he or she may become medication-nonadherent, resulting in symptom recurrence and an increased risk of agitation, impulse discontrol, and possible aggression.

**Treatment approaches**

In an acute setting, pharmacological interventions may be necessary, and the clinician may be challenged by the need to administer the maximum dose and at the same time not harm the patient. It is important to monitor vital signs, provide close observation, and assess agitation for at least 24 hours. Adverse events from otherwise good sedative agents can occur because different compounds are administered simultaneously or in addition to previously administered medications. In the long-term management of aggressive behavior, ascertain whether the potential for violence can be managed with psychotherapy before proceeding with medications. It is important to convey empathy and authenticity: if the agitated patient feels that he is understood and a good therapeutic relationship is in process, he may be less suspicious and defensive. Although pharmacological treatment may help manage aggressive behavior in schizophrenic patients, it may be difficult to establish the direct effect of each medicine. Drugs are usually used to maintain impulse control and reduce aggressive behavior. Although they may induce paradoxical disinhibition, benzodiazepines, especially lorazepam, are well tolerated and not associated with the extrapyramidal adverse effects typically associated with antipsychotics. Benzodiazepines are very useful in combination therapy with typical or atypical antipsychotics.

In patients with acute psychosis, the use of typical antipsychotics, especially haloperidol, is supported by their strong evidence base and the long and safe history of their intramuscular formulation. Atypical antipsychotics may decrease hostility over the long term. They also are associated with a lower risk of acute extrapyramidal adverse effects, such as dystonia and akathisia, as well as a lower risk of cardiovascular adverse effects, such as QTc prolongation. Clozapine, olanzapine, risperidone, aripiprazole, ziprasidone, and asenapine are the atypical antipsychotics most often used in the long-term treatment of hostility, impulsivity, and aggression in patients with schizophrenia. Those available in oral dissolving form are particularly useful for ease of administration (avoiding swallowing). Intramuscular formulations of atypical antipsychotics are also beneficial for treating aggressive and impulsive behavior in schizophrenic patients. Long-acting injectable formulations of antipsychotics are available for long-term treatment of patients with schizophrenia and schizoaffective disorder. These formulations are particularly beneficial for patients who might have trouble with medication adherence.

Clozapine decreases hostile, aggressive, and violent behavior in the treatment of persistent aggression in patients with schizophrenia. It represents the best long-term medication choice. In one study, after treatment with clozapine, the scores on the hostility item of the Positive and Negative Syndrome Scale were reduced in 157 patients with treatment-resistant schizophrenia. However, clozapine is not used for acute episodes because the dose must be titrated slowly during the first 3 weeks of treatment and it is likely that its anti-aggressive effect is not related to its antipsychotic effects.

Mood stabilizers—anticonvulsants and lithium—are often also prescribed in combination with antipsychotics. Substance abuse comorbidity increases the risk of violent behavior. Atypical antipsychotics and benzodiazepines are recommended for schizophrenic patients with substance abuse comorbidity. (Benzodiazepines are safe and effective sedative agents that do not create problems with addiction in the acute phase, especially when the patient is closely monitored.) Of note is loxapine, a typical antipsychotic, now available to treat agitation in inhalation form. According to preliminary evidence, agitation is reduced within 2 minutes of administration and the effects of a single dose last up to 24 hours.

**Conclusion**

Aggressive and impulsive behaviors in schizophrenia pose many clinical challenges. The best way to reduce the risk of aggression is with adequate treatment of schizophrenia. Using one of the many tools (Table) to assess a patient’s agitation/hostility can help psychiatrists make treatment decisions that will reduce the risk of aggression. Proper training of staff and a structured, calming environment...
can easily reduce the risk of violence and improve outcomes, ensuring safety for both staff and patients. Understanding treatment protocols provides clinicians with the knowledge for proper management and gives patients better solutions with possibly less invasive interventions.

**TABLE** Assessment tools that can be used for dysfunctional impulsivity

**Disclosures:**
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