Psychiatric Emergencies, Communication and Medication: Agitation

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***Abstract*—Psychiatric emergencies require a quick assessment of the situation and proper treatment with the right medication. At the same time, communication is an important tool in achieving an improvement more quickly and in many instances even avoiding the need for medication. This article provides an overview for the treatment of severely agitated patients**

***Index Terms*—psychiatric emergency, agitation, medication, communication, psychiatry**

I. Introduction

Communication is also in emergency situations the fundamental tool we have available to make a difference. While medication is usually necessary in psychiatric emergency situations, the interaction between one human being and another.

A. Timing

It is important to have a basic, yet solid assessment before giving medication. On the other hand, one should not wait too long to lower the risk of harm to the patient and others.

B. Communication

The first rule is to communicate with the patient and establish a relationship that allows one to get the information one needs to deliver the best help possible. This relationship can also calm down the patient so as to make medication unnecessary.

Empathic, respectful and thoughtful communication is important. Also, as much as possible, if the team can stay calm and reassure the patient by doing so.

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C. Being There

Showing interest in what is happening is important, as well as being as empathetic as possible, and conveying professionality and that the patient is not alone in a difficult situation. Communication should not be done with emotionless automatism, but with the respect and interest for another human being. The situation is intense for both, the patient and the therapist.

D. Medication

Medication might not be necessary, especially if the communication leads to a meaningful dialogue or just a calming down of the patient. Skilled and reassuring communication, together with the right amount of professionalism, can accomplish much. However, if the patient remains highly agitated and a potential threat to himself or herself or others, medication may become necessary.

The patient should be calm enough that a meaningful communication can become possible, but also without falling asleep. The more information there is about a situation, the better.

E. Other Techniques

Nonpharmacological approaches should be tried as much as possible, without losing valuable time, however. This can include reducing the noise level or moving to a nicer room with warmer lighting.

II. Medication

Medication should not be used simply as an alternative to a physical restraint. This would disregard both, the dignity of another human being and the substantial benefits medication can have if chosen thoughtfully.

A. Diagnosis

Form a provisional diagnosis of the most likely cause of the agitation and target the medication to it. It is particularly important to exclude other medical causes for the symptoms. Hypoxia and hypoglycemia, for example, can lead to delirium that is associated with agitation. In these cases, treating the underlying causes requires the appropriate diagnosis.

B. Involving the Patient

Involving the patient as much as possible in the process of selecting medication and application, such as oral vs intramuscular, to the extent possible. Good communication skills, empathy and respect are key once again. Oral medication should be preferred over intramuscular depot injections, if the patient is compliant.

C. Types of Medication

The following types of medication are used most frequently in emergency situations with agitation:

- first-generation antipsychotics
- second-generation antipsychotics, and
- benzodiazepines.

III. First-Generation Antipsychotics

Typical or first-generation antipsychotics (FGA) have been traditionally used for a long time. They are dopamine antagonists, and, while their effect on dopamine transmission may not be directly responsible for their antipsychotic effect, the FGAs often prove very effective in acute situations. It should be noted, however, that given that most second-generation antipsychotics have demonstrated good efficacy in treating acute agitation, have low rates of extrapyramidal side effects, and are subjectively preferred by patients over FGAs, [1] [2] second generation antipsychotics are usually preferred to the older antipsychotics, including haloperidol.

A. Phenothiazines

This class of medication includes low-potency antipsychotics such as chlorpromazine (Thorazine®). They have a propensity to cause more hypotension, more anticholinergic side effects, and lower the seizure threshold. They are usually not considered first line in the treatment of acute agitated states.

B. Butyrophenones

Haloperidol is the most common used drug to treat acute agitation. It is a highly selective and effective antagonist of the dopamine-2 (D2) receptor. It has minimal effects on vital signs, negligible anticholinergic activity, and minimal interactions with other nonpsychiatric medications. However, there are several rare but potentially fatal side effects.

QTc Prolongation

Prolongation of the QT interval can occur, and torsades de points (TdP) have been reported. If haloperidol is administered intravenously at all, the ECG should be monitored and the daily dose be limited. One should avoid the intravenous application of haloperidol, however, especially if other drugs are already administered which potentially increase the QT interval, if there are known QT interval prolongations, TdPs have occurred in the past, or there are cardiac abnormalities, electrolyte imbalances (particularly hypokalemia and hypomagnesemia), or hypothyroidism.

Extrapyramidal Side Effects (EPS)

Like other antipsychotics, haloperidol can induce extrapyramidal side effects (EPS), including tardive dyskinesia, which often occurs with substantial delay, but may be permanent and has the potential to interfere significantly with the life of the patient.

One study noted that EPS symptoms occurred in 20% of agitated patients treated with haloperidol alone but in only 6% of agitated patients treated with a combination of haloperidol and lorazepam. [3] This combination treatment was also found to produce more rapid reduction in agitation.

Malignant neuroleptic syndrome

Neuroleptic malignant syndrome (NMS) is a life-threatening neurologic emergency associated with the use of neuroleptic agents and characterized by a distinctive clinical syndrome of mental status change, rigidity, fever, and dysautonomia.

Catatonic Reactions

High doses of haloperidol can also cause catatonic reactions due to excessive central dopamine blockade. Catatonia is a state of psycho-motor immobility and behavioral abnormality manifested by stupor. Catatonia is believed to be caused by irregularities in the dopamine, gamma-aminobutyric acid (GABA), and glutamate neurotransmitter systems.

Use in Combination

Oversedation and interactions with other medications are among the risks of the use of haloperidol in combinations. In addition, studies on patient preference have indicated that FGAs sometimes cause dysphoria after use. [1] [2]

Haloperidol is frequently administered in combination with another medication such as lorazepam, promethazine, or diphenhydramine. [3] Studies have found that adding promethazine to haloperidol can similarly reduce the incidence of extrapyramidal side effects. [6] [7]

Other Side Effects

Antipsychotics in general are associated with a significant number of various other side effects, from the potentially more serious to the relatively mild, such as an emotional flattening [4].

IV. Second-Generation Antipsychotics

Examples of antipsychotics, also called second-generation antipsychotics (SGA) are:

- olanzapine (Zyprexa®)
- ziprasidone (Geodon®)
- aripiprazole (Abilify®)
- risperidone (Risperdal®)
- quetiapine (Seroquel®)

The SGAs are believed to have a reduced risk of near-term side effects such as dystonia or akathisia. [5] [6] [7] They act as antagonists at the D2 receptor, as do FGAs, but also have comparable or stronger antagonism of other receptor subtypes, particularly serotonin 2A receptors.

They also act at other receptor types, such as histamine, norepinephrine, and α-2 receptors. Ziprasidone, for instance, has a high affinity for serotonin receptors compared to D2 receptors, while olanzapine and quetiapine have relatively higher affinities for the histamine receptor. These receptor affinity patterns are also responsible for various desired effects in some patients, such as sleep induction or an anxiolytic or mild antidepressant effect.

There is still some discussion on the effect of SGAs in acute situations, and older antipsychotics, such as haloperidol, are still preferred in many places in these situations. On the other hand, a vast amount of research has demonstrated the effectiveness of SGAs in treating agitation in emergency situations. The SGAs are also calming, an effect that can be used in more severe anxiety disorders and also as an added mood stabilizing effect.

Intoxication

There has been less research into the use of SGAs in alcohol-intoxicated patients, and a first-generation antipsychotic may be a safer choice, particularly if the use of a benzodiazepine is anticipated.

Exceptions

Clozapine, the oldest second generation antipsychotic and the one with the lowest EPS risk, is usually not considered a first-line agent because of the rare, but potentially life threatening agranulocytosis it is associated with. Quetiapine may have an unacceptably high risk of orthostatic hypotension in the emergency department where patients are often volume depleted. Aripiprazole may be less effective for agitation and is probably the least sedating SGA.

V. Benzodiazepines

Benzodiazepines such as diazepam, lorazepam, and clonazepam act on the GABA receptor, the main inhibitory neurotransmitter in the human brain. These medications have a long record of efficacy for agitation, and are often preferred by clinicians when the patient is known to be suffering from stimulant intoxication, ethanol withdrawal, or when the etiology of agitation is undetermined. However, in agitation involving psychosis, benzodiazepines alone may only sedate a patient while not addressing the underlying condition that is producing the agitation. In addition, these medications may be oversedating and have the potential for respiratory depression or hypotension when used parenterally in patients with underlying respiratory conditions or in combination with other CNS depressants such as alcohol. In a minority of patients who chronically abuse stimulants, particularly amphetamines, psychotic symptoms develop as a result of their amphetamine use. In these patients, a first- or second-generation antipsychotic is often useful in addition to, or in place of, a benzodiazepine.

VI. Intoxication

A. Drugs

For intoxication with most recreational drugs, especially stimulants, benzodiazepines are generally considered first-line agents. [8] A minority of chronic amphetamine users develop psychotic symptoms from their amphetamine use. [9] In these patients, a second-generation antipsychotic may be useful in addition to a benzodiazepine.

B. Alcohol

Medication to treat agitation associated with alcohol intoxication should be used sparingly if at all. If medication is required, benzodiazepines should be avoided because of the potential to compound the risk of respiratory depression. Thus, antipsychotics are preferred. Haloperidol has the longest track record of safety and efficacy and has minimal effects on respiration. Second-generation antipsychotics, such as olanzapine and risperidone, have not been well studied for alcohol intoxication but may be a reasonable alternative to haloperidol for agitation in the context of alcohol intoxication. Of note, it is important to distinguish agitation secondary to alcohol intoxication versus agitation secondary to alcohol withdrawal, as benzodiazepines are preferred over antipsychotics in alcohol withdrawal. Agitation in a chronic alcohol user who exhibits features of delirium, such as tachycardia, diaphoresis, tremors, and a low or undetectable

alcohol blood level, should be presumed to be due to withdrawal and treated accordingly.

If possible, reducing environmental stimuli may help to calm the situation even without medication. [10] [11] Often, haloperidol is used as first choice for alcohol intoxication induced agitation. There is also the potential for clinically significant respiratory depression when benzodiazepines are administered to alcohol-intoxicated patients, as both agents are central nervous system (CNS) depressants [12], although it is not entirely clear how significant this is in practice. Nevertheless, the use of haloperidol is generally preferred to the use of benzodiazepines.

VII. Psychiatric Illness

Symptomatic psychotic agitation in schizophrenia, schizoaffective disorder and bipolar disorder is usually treated with antipsychotics rather than with benzodiazepines, because the former manages more directly the underlying condition.

Second-generation antipsychotics are generally preferred over haloperidol either alone or with an adjunctive medication. If the patient is willing to accept oral medication, oral risperidone appears to have the strongest evidence for safety and efficacy, with a smaller number of studies supporting the use of oral antipsychotics such as olanzapine. If the patient cannot cooperate with oral medications, intramuscular ziprasidone or intramuscular olanzapine is preferred for acute control of agitation.

If an initial dose of antipsychotic is insufficient to control the agitation, the addition of a benzodiazepine such as lorazepam may be superior to additional doses of the same antipsychotic or to a second antipsychotic.

A. Delirium

Delirium is a distinct clinical syndrome that frequently is associated with psychosis and agitation. Hallmarks of delirium include a decreased level of awareness and disturbances in attention and cognition, such as memory, that develop over an acute time course, from hours to days. The disturbances in cognition and awareness typically fluctutate over the course of hours. Prominence of visual hallucinations or visual perceptual disturbances is a particularly characteristic feature of delirium.

If alcohol or benzodiazepine withdrawal is the suspected cause of delirium, then a benzodiazepine is the agent of choice, [15] since rapid loss of chronic GABA receptor inhibition is implicated in the delirium produced in these circumstances. Clonidine can also be helpful in reducing the sympathetic overdrive of alcohol or benzodiazepine withdrawal, thereby easing delirium and agitation. [13]

If withdrawal from another agent is suspected, replacement of the agent with another that has similar pharmacologic properties should be attempted if safe and appropriate, such as in the case of nicotine withdrawal.

If the recent ingestion of a new agent or an increased dose of a chronically ingested agent is the suspected cause of the delirium, then the delirium may be self-limiting. However, agitation may require temporary pharmacologic management.

When an underlying medical abnormality, such as hypoglycemia, electrolyte imbalance, hypoxia, is the likely cause of delirium, this needs to be attended first. If its treatment is successful, the delirium usually disappears with it.

If immediate pharmacologic control of agitation is needed in a patient with delirium that is not due to alcohol, benzodiazepine withdrawal, or sleep deprivation, second-generation antipsychotics are the preferred agents. Haloperidol is also acceptable in low doses. [14] Benzodiazepines should be generally avoided because they can exacerbate the delirium. [15]

B. Unknown Etiology

If medication is needed to control agitation in a non-delirious patient for whom the underlying etiology of the agitation is not clear, there is little in the way of formal evidence to guide the decision of which agent to use. An antipsychotic is recommended in patients who show psychotic symptoms, such as hallucinations, delusional thinking or paranoia. In patients who do not display psychotic symptoms, a benzodiazepine is recommended as first-line treatment.

VIII. Communication

As pointed out repeatedly, good communication with a patient can help resolve the situation faster and with less medication. If communication is empathic, calm, reflected and directed at gaining insight into the situation and reassuring the patient in a non-patronizing way, it can in a good number of cases resolve the emergency without even the need for medication. However, in many emergency situations it is not possible to maintain the amount of emotional and mental composure to provide in exactly this way. Still, communication should be at the top of the list of interventions, together with medication.

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