Medical Complications of Psychiatric Treatment

An Update

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KEYWORDS

- Complications of psychiatric medications • Psychiatry and critical illness
- Psychiatric medications in hospitalized patients

KEY POINTS

- The use of psychiatric medications is common and frequently indicated in the management of critically ill patients.
- Medical complications from these medications may occur and can range from being minor to life-threatening.
- Careful consideration of their toxicity, interactions with other treatments, and intoxication or withdrawal syndromes should be made in the care of the critically ill patient.
- This article discusses the most significant medical complications of psychiatric treatment and is organized by each organ system.

Psychiatric medications are used commonly in critically ill patients and may be indispensable to manage many conditions, including preexisting disorders, emotional and behavioral symptoms due to medical illness, disruption of sleep, and to facilitate successful weaning from sedation. Such treatment should be closely monitored, however, as medical complications may arise. These complications may occur due to direct toxicity, drug-drug interactions, or intoxication or withdrawal from psychotropic medications. They range from life-threatening reactions, such as neuroleptic malignant syndrome and Stevens-Johnson Syndrome (SJS),

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to minor syndromes (electrolyte disturbances or elevations in liver function testing), to mild adverse effects, such as sedation. This article discusses the most significant medical complications of psychiatric treatment and is organized by each organ system.

CENTRAL NERVOUS SYSTEM

Neuroleptic Malignant Syndrome

Neuroleptic malignant syndrome (NMS) is an idiosyncratic, potentially life-threatening reaction caused by the administration of antipsychotics and other medications that block dopamine in the central nervous system. The syndrome is characterized by the onset of fever, autonomic instability, extrapyramidal signs, and altered mental status (**Box 1**).[1] Incidence rates range from 0.01% to 0.02%. Historically, typical antipsychotics with strong dopamine blockade have caused NMS, but atypical antipsychotics with lower dopamine receptor affinity and phenothiazine antiemetics have also been implicated.[2] Onset is usually within 24 hours to 1 month after drug initiation, with altered mental status and neurologic signs, such as rigidity, generally preceding other features. Duration is limited once the drug is discontinued; however, mortality rates have been reported as high as 10% to 20% when NMS has not been recognized.[3] In the intensive care unit (ICU), several risk factors exist for NMS, including the use of antipsychotics for management of agitation or delirium, use of higher doses of antipsychotics in the parenteral formulation, rapid dose escalation, switching from one agent to another, use of these agents in treatment-naïve individuals, and compromised metabolism.[2–4]

Box 1
Neuroleptic malignant syndrome

Major Features

Exposure to dopamine antagonist within 72 hours before symptom development

"Lead pipe" muscle rigidity

Hyperthermia (>100°F or 38°C, measured orally × 2)

Associated Features

Altered mental status

Autonomic instability (tachycardia, hypertension, tachypnea)

Associated with profuse diaphoresis

Creatinine kinase >4 times upper limit

Evaluation

Leukocytosis

Metabolic acidosis

Hypoxia

Respiratory distress from hypermetabolism, chest wall restriction, metabolic acidosis, aspiration pneumonia, pulmonary emboli

Decreased serum iron concentrations

Elevations in serum muscle enzymes and catecholamines

Electroencephalographic generalized slowing