

Hyperactive and Hypoactive Delirium: What we know so Far

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ABSTRACT

Delirium is a common and severe neuropsychiatric syndrome characterized by acute changes in attention, cognition, and consciousness. It can present in different clinical forms, including hyperactive and hypoactive delirium. Hyperactive delirium is characterized by increased psychomotor activity, agitation, and disruptive behavior, while hypoactive delirium is characterized by reduced psychomotor activity, somnolence, and decreased responsiveness.

The diagnosis of hyperactive and hypoactive delirium involves a comprehensive evaluation of medical history, physical examination, and laboratory tests to identify underlying causes and exclude other conditions. Prompt recognition and accurate diagnosis are crucial for appropriate management and treatment.

The management of hyperactive and hypoactive delirium aims at addressing the underlying etiology, ensuring patient safety, and alleviating distressing symptoms. Treatment strategies include the optimization of medical conditions, discontinuation or adjustment of offending medications, and supportive care. Pharmacological interventions, such as the use of sedative medications for hyperactive delirium or stimulant agents for hypoactive delirium, may be considered when necessary.

Multidisciplinary collaboration involving healthcare professionals, including physicians, nurses, and therapists, is essential for the comprehensive care of patients with hyperactive and hypoactive delirium. In conclusion, hyperactive and hypoactive delirium are distinct clinical manifestations of an acute confusional state. Their identification, diagnosis, and management require a multidimensional approach to address the underlying causes and alleviate symptoms. Early recognition and appropriate interventions are crucial for improving patient outcomes and enhancing their overall well-being.

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INTRODUCTION

Delirium, also known as acute confusional state, is a neuropsychiatric disorder characterized by an acute and transient disturbance of consciousness, attention and cognition that fluctuates over time. It manifests in a variety of forms, two of which are hyperactive delirium and hypoactive delirium.¹

Hyperactive delirium is characterized by psychomotor overexcitability and excessive activity. Individuals with this type of delirium show increased physical activity, agitation, restlessness, irritability, and disorganized behaviors. These patients may exhibit impulsive behaviors, such as attempts to remove urinary catheters or remove medical devices necessary for their care.²

On the other hand, hypoactive delirium is characterized by decreased psychomotor activity and an apparent decrease in

energy. Patients experiencing this type of delirium may exhibit drowsiness, apathy, lethargy, slowness of movement, and difficulty maintaining attention and responding appropriately to external stimuli. It is important to note that hypoactive delirium often goes unnoticed or is mistaken for depression or sedation caused by medication.³

Both types of delirium, hyperactive and hypoactive, are clinical manifestations of impaired brain function due to different underlying causes, such as infections, electrolyte imbalances, medication side effects, metabolic disorders, trauma, among others. Accurate identification and diagnosis of delirium, whether hyperactive or hypoactive, is essential to provide appropriate treatment and address the underlying causes in order to prevent complications and improve the patient's prognosis.⁴

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Current relevance

Hyperactive and hypoactive delirium represent two significant clinical manifestations of acute confusional state or delirium, and their relevance lies in multiple medical and care aspects.⁴

First, delirium in any form involves an acute and transient alteration of brain function, affecting consciousness, attention and cognition. Early recognition and differentiation between hyperactive and hypoactive delirium are critical for accurate diagnosis and optimal management. This is because the subtypes of delirium may require different therapeutic approaches, such as the use of sedative drugs in hyperactive delirium to control agitation, whereas hypoactive delirium may require strategies to stimulate and enhance patient alertness and engagement.⁵

Second, delirium is commonly secondary to underlying medical causes, such as infections, metabolic imbalances, medication use, cerebrovascular disease, trauma, among others. Therefore, identifying and addressing the underlying causes is essential for proper treatment and to prevent serious complications. Both hyperactive and hypoactive delirium can be indicators of a serious disease or medical condition that requires immediate intervention, such as a systemic infection or a decompensated metabolic disorder.⁶

In addition, accurate identification and regular assessment of hyperactive and hypoactive delirium are critical to patient safety. Delirium is associated with an increased risk of complications, such as falls, pressure ulcers, malnutrition, dehydration, among others. Patients with hyperactive delirium may have an increased risk of self-injury or harming others due to agitation and impulsivity. On the other hand, patients with hypoactive delirium may be more vulnerable to adverse events due to decreased responsiveness to stimuli and difficulty communicating their distress.⁷

Also, the presence of hyperactive or hypoactive delirium can have implications for the quality of life of the patient and their caregivers. Delirium is associated with increased length of hospitalization, increased need for invasive interventions, and increased health care costs. In addition, it can have a negative impact on long-term functional and cognitive recovery, as well as post-hospital quality of life.⁷

CLINICAL MANIFESTATIONS

Hyperactive Delirium:

Hyperactive delirium is characterized by intensified psychomotor symptomatology and excessive activity. Patients with hyperactive delirium exhibit a significant increase in physical activity, manifested by marked agitation, psychomotor restlessness, marked irritability, and disorganized behaviors. These individuals may show excessive responsiveness to internal and external stimuli, resulting in intense and unpredictable emotional and behavioral responses.⁸

In addition, patients with hyperactive delirium may exhibit impulsive and uninhibited behaviors, such as attempts to

remove essential medical devices, removal of catheters, probes or venous lines, as well as perform dangerous or inappropriate actions due to lack of cognitive control and judgment. It is also common to observe rapid fluctuations in symptoms, with periods of increased intensity and times of decreased activity, contributing to the clinical variability characteristic of delirium.⁸

Hypoactive Delirium:

On the other hand, hypoactive delirium is characterized by a significant reduction in psychomotor activity and an apparent decrease in energy. Patients with hypoactive delirium may manifest pronounced somnolence, marked apathy, lethargy, slowness of movement, and difficulty maintaining attention and responding appropriately to external stimuli. These individuals may exhibit decreased social interaction, expressing a lower level of verbal and nonverbal communication.⁹

A relevant aspect of hypoactive delirium is that it is often overlooked or confused with other disorders, such as depression or drug-induced sedation, because of the apparent lack of overt psychomotor restlessness or arousal. This form of delirium can be especially challenging to diagnose, as patients may appear calm and sedated, while their true state is characterized by significant impairment of consciousness and cognition.⁹

It is important to note that both hyperactive and hypoactive delirium are clinical manifestations of acute, reversible brain deterioration, usually caused by underlying conditions, such as infections, metabolic imbalances, medications, brain injury, among others. Early recognition and proper differentiation between the two subtypes of delirium are critical for optimal management and targeted intervention to address underlying causes and minimize associated complications.⁹

DIAGNOSIS

The diagnosis of hyperactive and hypoactive delirium is based on a thorough clinical evaluation encompassing various medical and neuropsychiatric aspects, using established diagnostic criteria. Importantly, proper diagnosis requires identification of characteristic symptoms and exclusion of other conditions that may mimic or contribute to the clinical presentation.¹⁰

First, a thorough assessment of the patient's medical history should be performed, including the identification of possible risk factors for the development of delirium, such as advanced age, presence of chronic diseases, use of potentially sedative medications or medications with anticholinergic effects, and history of cerebrovascular disease or previous neuropsychiatric disorders. In addition, it is important to collect information on the onset and progression of symptoms, as well as potential triggers, such as infections, surgery, medication changes, metabolic imbalances or trauma.^{10, 11}

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The physical examination should include a complete neurologic evaluation for cognitive deficits, motor function disturbances, and focal neurologic signs that may suggest a specific cause of delirium. Attention should be paid to signs of agitation or lethargy, as well as the presence of abnormal movements, tremors, rigidity, or any other relevant neuromuscular findings.¹¹

In addition, laboratory tests and imaging studies should be performed to rule out and evaluate possible underlying causes of delirium. This may include blood tests to assess metabolic status, electrolyte levels, kidney and liver function, as well as inflammatory markers and cultures to detect infections. Brain imaging tests, such as MRI or CT scans, may be necessary to rule out structural lesions or cerebrovascular disease.¹

As for specific diagnostic criteria, widely accepted classification systems are used, such as the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) or the International Classification of Diseases (ICD-11), which describe the criteria for the diagnosis of delirium in general, as well as for the hyperactive and hypoactive subtypes.¹²

The DSM-5 states that delirium is characterized by an acute onset and disturbance in attention and consciousness, along with a change in cognition or the development of a perceptual disorder that is not explained solely by preexisting dementia. Specific symptoms of hyperactive delirium include psychomotor agitation, disorganized behavior, excessive arousal, whereas hypoactive delirium is characterized by decreased motor activity, drowsiness, and decreased responsiveness to stimuli.¹²

In summary, the diagnosis of hyperactive and hypoactive delirium involves a detailed clinical evaluation involving history, physical examination, laboratory tests and, occasionally, imaging studies. Identification of the diagnostic criteria established in the classification systems is essential to make an accurate diagnosis and provide appropriate and timely treatment.¹²

TREATMENT

Treatment of hyperactive and hypoactive delirium is based on a multifactorial approach that seeks to address both the underlying causes of delirium and the specific symptoms associated with each subtype. Importantly, optimal management of delirium requires individualized assessment and treatment, tailored to the needs and characteristics of each patient.^{12,13}

First, underlying causes of delirium, such as infections, metabolic imbalances, respiratory disorders, potentially causative or exacerbating medications, among others, should be identified and treated. Correction of these factors contributes to the resolution of delirium and helps prevent recurrence.¹³

Management of the symptoms of hyperactive delirium involves the use of nonpharmacologic interventions and, in selected cases, the administration of medications. Nonpharmacologic interventions include creating a calm and

safe environment, frequent orientation to time and place, promotion of an appropriate sleep-wake rhythm, adequate sensory stimulation, and promotion of communication and social interaction. These measures can help reduce agitation and improve the patient's ability to participate in his or her environment.¹³

In situations where non-pharmacological interventions are not sufficient, medications to control agitation and psychomotor arousal may be considered. Second-generation antipsychotics, such as quetiapine or olanzapine, are frequently used because of their safety profile. However, it is important to exercise caution with the use of these medications, as they may be associated with side effects, such as excessive sedation or decreased blood pressure, especially in elderly patients.

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In the case of hypoactive delirium, the focus is on stimulation and active participation of the patient. Non-pharmacological interventions, such as sensory stimulation, occupational therapy, physical therapy and promotion of mobility, can be beneficial in improving alertness and response to stimuli. In addition, it is important to optimize the management of pain, sedation and other factors that may contribute to decreased motor activity and lethargy.¹⁴

In both subtypes of delirium, constant monitoring of the patient should be taken into account to evaluate the response to treatment and detect possible complications. In addition, a multidisciplinary team including physicians, nurses, occupational therapists, physiotherapists and mental health specialists is essential to ensure a comprehensive and coordinated approach to patient care.¹⁴

CONCLUSIONS

In conclusion, hyperactive and hypoactive delirium are two distinct but equally relevant clinical forms of acute confusional state. Hyperactive delirium is characterized by psychomotor overexcitation and agitation, whereas hypoactive delirium is characterized by decreased psychomotor activity and drowsiness.

Both subtypes of delirium have significant diagnostic, treatment and prognostic implications. Early recognition and accurate diagnosis are critical to provide appropriate medical care and address the underlying causes. Treatment of hyperactive and hypoactive delirium is based on a comprehensive approach that includes management of underlying medical conditions, optimization of patient safety, and stabilization of specific symptoms.

It is crucial to address triggering causes, such as infections, metabolic imbalances, side effects of medications or other illnesses, in order to reduce the burden of illness and promote recovery. In addition, pharmacological strategies, such as sedative drugs in the case of hyperactive delirium, or non-pharmacological approaches, such as sensory stimulation and

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counseling in the case of hypoactive delirium, can be used to control symptoms and improve cognitive function.

Proper identification and management of hyperactive and hypoactive delirium not only improves patient well-being and safety, but can also have a positive impact on short- and long-term clinical and functional outcomes. Multidisciplinary collaboration, involving physicians, nurses, therapists and caregivers, is essential to provide comprehensive care tailored to each patient's individual needs.

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