
Delirium Management in the Critic Geriatric Patient: An Updated Approach

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ABSTRACT

Delirium or acute confusional syndrome is a common problem in geriatric patients, although its diagnosis is often overlooked, especially in its hypoactive form. Risk factors for delirium are previous cognitive alterations and certain comorbidities, different environmental factors and acute organic alterations typical of critically ill patients. Delirium is associated with increased short- and long-term mortality, to the prolongation of mechanical ventilation, to prolonged stays in the Intensive Care Unit (ICU) and in the hospital and to cognitive deterioration after hospital discharge. In recent years, specific tools have been developed for the detection of delirium in ICU.

The implementation of specific interventions on certain risk factors can reduce the incidence of delirium in hospitalized patients. The treatment of delirium it is based on identifying and correcting the underlying causes, establishing support measures and, sometimes, pharmacological treatment to control symptoms. Haloperidol is the first-line drug for the control of delirium, since experience with atypical neuroleptics, such as olanzapine and risperidone, as well as with other drugs, it is insufficient to be able to make recommendations on their use. Neuroleptics can have serious side effects that must be taken into account. In cases with agitation, the simultaneous use of benzodiazepines or propofol may be necessary and, sometimes, in a temporary and protocolized manner, the use of physical restraints.

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INTRODUCTION

Delirium (delirium in Anglo-Saxon literature) or acute confusional syndrome is a serious disorder neuropsychiatric disorder of organic origin that is characterized by the appearance of alterations in consciousness and of cognitive functions and usually has a course fluctuating. It is acute in nature, usually manifests itself within hours or days, and is of organic origin. occurs in the context of a medical illness general or as a result of the use or withdrawal of certain substances. Its manifestations include disturbances in attention (inattention or hypervigilance) and the perception of medium (delusions or hallucinations), and courses with agitation or hypoactivity, the latter being less striking and therefore more difficult to diagnose.¹

Delirium is an undervalued problem in critically ill patients, but it occurs in a high number of patients admitted to Care Units intensive care (ICU) and is probably the most frequent

manifestation of acute system dysfunction central nervous (CNS). Unlike other organ dysfunctions, our understanding of delirium are still in a phase of phenomenological characterization, of epidemiological description and search for diagnostic tools useful to the bedside of the patient. Only recently have such tools been developed, but their use is not yet established. In a recent survey, most of ICU professionals considered that the delirium is a frequent and serious problem, but they recognized that it was an underdiagnosed syndrome, and only a minority used specific tools to systematic detection of delirium in their patients.^{2,3,4}

The negative consequences of delirium go beyond of those derived from aggressive and self-injurious behavior in patients with agitation, and recent studies have shown that delirium is one of the main determinants of hospital stay and long-term mortality of patients admitted to the ICU receiving mechanics ventilation.^{5,6}

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EPIDEMIOLOGY

In general, the epidemiology of delirium is widely variable with an incidence that ranges between 3-44%, which is profoundly influenced by factors such as the age of the patients, the clinical setting and the associated pathologies. For example, at the community level the frequency of delirium is relatively low, at 1-2%. However, these patients are typically rushed to emergency services, where delirium has been estimated to be present in 8-17% of all elderly patients, and approximately 40% of nursing home patients. The prevalence rises to 29-64% in the hospitalized population from these groups. The clinical context has also shown a close link with the risk of mortality. Patients with delirium hospitalized in intensive care units (ICU) show a 2-4 times higher risk of mortality both in hospital and after discharge. On the other hand, patients with delirium in general medicine and geriatric departments exhibit a 1.5-fold increased risk of mortality in the year after hospitalization; and patients with delirium in the emergency services during the first 6 months after the event. Beyond the high risk of mortality, delirium has been associated with other adverse outcomes in the elderly population. Significant cognitive impairment has been observed after delirium that can last up to 1 year, especially in patients who develop this complication in the post-surgical period. In patients with pre-established neurocognitive disorders, a worsening of cognitive functions after delirium has been observed. Similarly, it has been reported that the physical capacity, functionality and independence of patients is also altered for approximately 30 days after delirium, both in surgical and non-surgical patients.^{7,8,9}

DIAGNOSTIC CRITERIA FOR DELIRIUM

Diagnosis of delirium is based on criteria defined by the American Psychiatric Association in the 4th version of the Diagnostic and Statistical Manual of mental disorders (DSM-IV) or, alternatively, those proposed in the Classification International Diseases (ICD-10). In both cases, diagnostic criteria are based on expert opinion and have not been sufficiently validated. Perhaps for this reason the frequency of delirium varies from one study to another depending on the diagnostic criteria used

The reference method for the diagnosis of this syndrome is the interview conducted by the psychiatrist with the patient, which, conducted in a structured way, may require about 30 minutes. The instrument most commonly used today for the detection of delirium in hospitalized patients is the method for assessing of the confusional state (confusion assessment method [CAM]), recently validated in our country and often used by geriatricians, as the elderly hospitalized population is the one with the highest risk of delirium. Most of the questionnaires or interviews designed for the diagnosis of delirium are difficult to apply in critically ill patients, since they require a good level of consciousness and the presence of skills verbal, motor, visual and auditory preserved.¹⁰

In recent years, tools have been developed alternatives, applicable by doctors and nurses of ICU, which, in a period of time as short as of one or two minutes, allow detection of delirium with a high degree of reliability, even in patients who cannot follow a spoken interview, such as those receiving mechanical ventilation.¹¹

The CAM-ICU has been validated for the diagnosis of delirium in the critically ill patient to mechanical ventilation and can be carried out in two minutes for each patient evaluated, so it is a useful tool to be used in the systematic detection of delirium in the ICU. In the validation Study, the CAM-ICU presented a sensitivity, specificity and positive predictive values and negative greater than 90%, compared with the diagnosis based on DSM-IV, and had excellent interobserver agreement.¹²

The CAM, from which the CAM-ICU is derived, has recently been evaluated by independent investigators who have found moderate sensitivity and suboptimal specificity, so the MAC would be only a detection method and not a definitive diagnosis of delirium. Similarly, the CAM-ICU should be considered a screening method; It has been pointed out that its main weakness lies in its inability to distinguish alterations of conscience typical of delirium from those caused by the effect of the sedative medication, so it could significantly overestimate the incidence of delirium in ICU patients.¹³

In the validation study of the CAM-ICU9, 83% of patients experienced delirium at some point during your hospital stay. The delirium had a mean duration of 2.4 days. 40% of patients undergoing mechanical ventilation who were awake or easily aroused and were able to maintain eye contact with the explorer and to obey simple commands (measured objectively using the RASS sedation scale) had delirium.^{14,15}

At hospital discharge, the minimal test was abnormal (less than 24 out of 30 points) in half of the patients. survivors, 10% remained delirious and 20% he had partial criteria for delirium. However, others studies conducted in the ICU have found a much lower frequency of delirium: using the CAM-ICU15 and IC-DSC11 have found delirium in 22 and 19%, respectively, of the patients evaluated, so this aspect undoubtedly requires clarification.¹⁶

PREDISPOSING FACTORS

Delirium is rarely caused by a single factor, therefore, it is considered a syndrome of etiology multifactorial, resulting from the interaction between previous vulnerability of the subject (advanced age, previous cognitive alterations [dementia], sensory disabilities such as hearing loss and decreased visual acuity, substance use with capacity addictive, such as alcohol, nicotine and psychotropic drugs), environmental factors (prolonged immobility, practice of interventions and procedures on the ill, physical restraints, sensory deprivation or overstimulation, sleep deprivation, ventilation mechanical, substance withdrawal) and physiological conditions caused by acute Disease (sepsis,

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anemia, hypoxia, hypotension, alterations water and electrolyte problems, insufficiently treated pain, use of psychoactive drugs, especially opiates and benzodiazepines). It has been noted that the risk of delirium increases with the number of factors present.^{17,18,19}

The relative importance of the different predisposing factors for delirium in the critically ill, which would be useful for designing strategies preventive, since it has been shown that actions aimed at reducing the influence of certain risk factors can reduce the incidence of delirium in hospitalized elderly patients.²⁰

NON-PHARMACOLOGICAL TREATMENT

The main goal of non-pharmacological treatment is to provide an optimized and safe environment, treat reversible causes of delirium and control symptoms with pharmacological and non-pharmacological interventions, communicate with patients and their families.²¹

Environmental intervention such as: lighted room, the patient should not be isolated, maintain a permanent companion, should not be in the same room as a delirious patient, help to maintain orientation, a clock and a calendar, provide information about their stay, reason for admission, provide glasses or a hearing aid if used, attempt early mobilization of the patient, an adequate sleep-wake rhythm, and incorporate family members in the care of the patient.²¹

If necessary, mats equipped with pressure alarms can be used to alert nurses if a patient leaves the room or away from the bed, in addition to removing dangerous objects, high beds and electrical cables.²²

The use of sedatives and hypnotics, such as benzodiazepines, should be avoided, except for the treatment of drug or alcohol withdrawal.²²

PHARMACOTHERAPY

Pharmacological treatment of delirium, in the elderly, when necessary, needs careful monitoring and consideration between potential benefits and possible side effects that can lead to mental deterioration in the elderly.²³

The fundamental thing is to treat the underlying cause, simultaneously controlling the symptoms of acute confusional syndrome. Pharmacological treatment should be reserved for patients who are a threat to their own safety and that of others. There is no ideal drug for the management of delirium. The appropriate drug will be chosen based on the side effect profile, the patient's condition, and the chosen route of administration. By convention, haloperidol has been the agent of choice for the treatment of delirium. Haloperidol should be used with extreme caution due to the risk of excessive sedation in elderly patients, as the half-life of the drug may be longer.²³

Benzodiazepines are commonly used to treat delirium in younger adults, guidelines recommend that these medications be avoided as monotherapy unless dealing with delirium due to alcohol or benzodiazepine withdrawal. In older adults,

benzodiazepines can precipitate or worsen delirium and can cause serious side effects, including excessive sedation, disinhibition, ataxia, and confusion.²⁴

It is not about sedating the patient, but about reducing the symptoms, with the patient being as awake as possible. Excessive sedation can cause complications, such as microaspirations, apneas or immobility.²⁴

Anticholinergics are not recommended in the elderly as they may cause confusion or other effects of blurred vision, constipation, and urinary retention.²⁴

CONCLUSIONS

Delirium is one of the most commonly observed complications in geriatric patients, it can be detected through a rigorous initial evaluation and good multidisciplinary management by medical personnel. The management of delirium can be divided into 2 ways: the non-pharmacological one that is in charge of all those control measures to provide an optimal and safe environment, in addition to promoting an adequate sleep-wake cycle is essential for the patient and the pharmacological treatment in which haloperidol is used as the first line of treatment, with which careful monitoring and consideration between potential benefits and possible side effects that can lead to mental deterioration in the elderly is necessary, it is also important to prevent patients from doing harm and protect the physical integrity of personnel. Benzodiazepines are effective for delirium associated with seizures or alcohol withdrawal, therefore, it is recommended to have a high suspicion and use the criteria mentioned above for proper management of the elderly and thus improve the quality of life in these patients.

REFERENCES

- I. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th ed., Text revision. Washington DC, American Psychiatric Association 2000.
- II. Ely EW, Siegel MD, Inouye SK. Delirium in the Intensive Care Unit: an under-recognized syndrome of organ dysfunction. *Seminars Respir Crit Care Med.* 2001; 22:115-6.
- III. Ely EW, Stephens RK, Jackson JC, Thomason JW, Truman B, Gordon S, et al. Current opinions regarding the importance, diagnosis, and management of delirium in the intensive care unit: a survey of 912 healthcare professionals. *Crit Care Med.* 2004; 32:106-12.
- IV. Ely EW, Gautam S, Margolin R, Francis J, May L, Speroff T, et al. The impact of delirium in the intensive care unit on hospital length of stay. *Intensive Care Med.* 2001; 27:1892-1900.
- V. Ely EW, Shintani A, Truman B, Speroff T, Gordon SM, Harrell FE, et al. Delirium as a predictor of mortality in mechanically ventilated patients in the Intensive Care Unit. *JAMA.* 2004; 291:1753-62.

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- VI. Laurila JV, Pitkala KH, Strandberg TE, Tilvis RS. The impact of different diagnostic criteria on prevalence rates for delirium. *Dementia Geriatr Cognit Dis*. 2003; 16:156-61.
- VII. González M, De Pablo J, Fuente E, Valdés M, Peri JM, Nomdedeu M, et al. Instrument for detection of delirium in general hospitals: adaptation of confusion assessment method. *Psychosomatics*. 2004; 45:426-31.
- VIII. Guillén Lera F. Delirium en pacientes ancianos hospitalizados. *Med Clin (Barc.)*. 2005; 124:538-40.
- IX. Ely EW, Inouye SK, Bernard GR, Gordon S, Francis J, May L, et al. Delirium in mechanically ventilated patients: validity and reliability of the confusion assessment method for the intensive care unit (CAM-ICU). *JAMA*. 2001; 286:2703-10
- X. Ely EW, Margolin R, Francis J, May L, Truman B, Dittus R, et al. Evaluation of delirium in critically ill patients: validation of the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU). *Crit Care Med*. 2001; 29:1370-9.
- XI. Bergeron N, Dubois MJ, Dumont M, Dial S, Skrobik Y. Intensive Care Delirium Screening Checklist: evaluation of a new screening tool. *Intensive Care Med*. 2001; 27:859-64.
- XII. Ely EW, Truman B, Shintani A, Thomason JW, Wheeler AP, Gordon S, et al. Monitoring sedation status over time in ICU patients: reliability and validity of the Richmond Agitation Sedation Scale (RASS). *JAMA*. 2003; 289:2983-91.
- XIII. Laurila JV, Pitkala KH, Strandberg TE, Tilvis RS. Confusion assessment method in the diagnostics of delirium among aged hospital patients: would it serve better in screening than as a diagnostic instrument? *Int J Geriatr Psychiatry*. 2002; 17:1112-9.
- XIV. Bergeron N, Skrobik Y, Dubois MJ. Is disturbance of consciousness an important feature of ICU delirium? *Intensive Care Med*. 2005; 31:887.
- XV. Lin SM, Liu CY, Wang CH, Lin HC, Huang CD, Huang PY, et al. The impact of delirium on the survival of mechanically ventilated patients. *Crit Care Med*. 2004; 32:2254-9.
- XVI. Inouye SK, Bogardus ST Jr, Charpentier PA, Leo-Summers L, Acampora D, Holford TR, et al. A multicomponent intervention to prevent delirium in hospitalized older patients. *N Engl J Med*. 1999; 340:669-76.
- XVII. Meagher DJ, O'Hanlon D, O'Mahony E, Casey PR, Trzepacz PT. Relationship between symptoms and motoric subtype of delirium. *J Neuropsychiatry Clin Neurosci*. 2000; 12:51-6.
- XVIII. O'Keefe ST, Lavan JN. Clinical significance of delirium subtypes in older people. *Age Ageing*. 1999; 28:115-9.
- XIX. Levkoff SE, Evans DA, Liptzin B, Cleary PD, Lipsitz LA, Wetle TT, et al. Delirium. The occurrence and persistence of symptoms among elderly hospitalized patients. *Arch Intern Med*. 1992; 152:334-40.
- XX. McNicoll L, Pisani MA, Zhang Y, Ely EW, Siegel MD, Inouye SK. Delirium in the intensive care unit: occurrence and clinical course in older patients. *J Am Geriatr Soc*. 2003; 51:591-8.
- XXI. Kiely DK, Bergmann MA, Murphy KM, Jones RN, Orav EJ, Marcantonio ER. Delirium among newly admitted postacute facility patients: prevalence, symptoms, and severity. *J Gerontol A Biol Sci Med Sci*. 2003;58:M441-5.
- XXII. Breitbart W, Rosenfeld B, Roth A, Smith MJ, Cohen K, Passik S. The Memorial Delirium Assessment Scale . *J Pain Symptom Manage*. 1997; 13:128-37.
- XXIII. McCusker J, Cole M, Bellavance F, Primeau F. Reliability and validity of a new measure of severity of delirium. *Int Psychogeriatr*. 1998; 10:421-33.
- XXIV. Skrobik YK, Bergeron N, Dumont M, Gottfried SB. Olanzapine vs haloperidol: treating delirium in a critical care setting. *Intensive Care Med*. 2004; 30:444-9.