

## A call to improve delirium care: The Italian experience

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*Thousands of tiny little creatures, some on horseback, waving arms, carrying weapons like some grand Renaissance battle, were trying to turn people into zombies. Their leader was a woman with no mouth but a very precisely cut hole in her throat.*

John Kaplan, Pulitzer Prize-winner describes his experience of delirium during recovery for pneumonia.

Delirium is a common and serious problem among acutely ill and elderly patients. The condition is ubiquitous, has no bound medical specialty and crosses over both hospital and community settings. Delirium occurs in up to half of the frail older patient population admitted to hospital and up to 80% of critically ill intensive care unit patients. High prevalence is also common in nursing homes and long-term care facilities.

Delirium has been recognised since the time of Hippocrates, who may have been the first to describe the condition. The old description (confusion, agitation, fluctuating anxiety associated with physical disease) is similar to the modern criteria of the Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> edition, DSM-5) defining the condition as *disturbance in attention and cognition that tends to fluctuate in severity during the day and occurs in the setting of a medical condition*. Fundamentally, delirium represents a decompensation of cerebral function in response to one or more pathophysiological stressors. Susceptibility factors have been established as advanced age at first, drugs, cognitive impairment, frailty and sensory impairment (blurred vision and hearing loss). Precipitating factors for delirium include noxious insults (stroke, infection, metabolic disturbances, anoxia, toxins) and hospitalisation-related factors (catheters, drips, anaesthesia and surgery, unfamiliar environments, immobilising devices or physical restraints). Recent years have heralded an increasing number of scientific reports and the establishment of several international societies with experts worldwide focusing on delirium, such as European Delirium Association, American Delirium Society and Australasian Delirium Association. With their support, the clinical approach to delirium has shifted from ad hoc treatment to primary prevention, sys-

tematic screening and early detection. Despite its long history, high prevalence, the true incidence rate of delirium remains severely underestimated. Healthcare professionals are unable to identify the syndrome in up to 75% of cases, and delirium is only appropriately coded in 0.2% of cases, which may be attributable to several reasons. For instance, healthcare staff use a wide variety of generic and non-specific terms and phrases to describe delirium, such as *psychomotor agitation, confusional state and aggressive/disturbed behaviour*, leading to diagnostic imprecision. Another reason is that excellence in delirium care is not generally considered to be a core element of the skills of a physician. Assessment of delirium is not included in draft guidelines on acutely ill patients (such as NICE guidelines, for example) and also absent from the overwhelming majority of university training curricula for internal and acute medicine. Thus, owing to insufficient medical knowledge, along with a combination of unpredictable and atypical clinical presentations, accurate diagnosis of this condition presents a significant challenge to healthcare providers. Undetected delirium is further associated with numerous negative consequences, including disease complications and increased lengths of hospital stay, loss of function, high risk of falls, increased mortality, prolonged institutional care after hospitalisation, long-term cognitive impairment and post-traumatic stress disorder.<sup>1</sup>

In 2016, a network of Italian national scientific societies (geriatricians, emergency physicians, internists, anaesthesiologists, surgeons, psychiatrists and toxicologists) was convened with the aim of developing a collaborative multidisciplinary initiative consensus on delirium in elderly hospitalised patients. Task force members were identified by the presidents and governing boards of each scientific society. After several shared layouts, in 2017 the final draft was approved by all societies.<sup>2</sup> The main topics on which consensus was reached are outlined below.

### Inclusion of delirium

All groups stressed the necessity of an effective delirium educational intervention system for healthcare workers. The goal is to include routine assessment of delirium in primary healthcare. Encouragement of healthcare professionals to *think delirium* in differential diagnosis of the confusional state of aged patients is the key for recognising the condition. All societies agreed to promote the use of the term *delirium* as a clinical diagnosis in hospital charts and foremost in discharge reports. This new

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Key words: delirium; older adults; prevention; polypharmacy; hospital; cognitive impairment; antipsychotic; quality improvement

Received for publication: 5 October 2017. Accepted for publication: 20 February 2018.

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consensus should provide revolutionary support for first line management of widespread delirium in our hospitals.

### Prevention

Experts from all the Scientific Societies unanimously highlighted the importance of identifying patients at risk for delirium and developing direct preventative strategies that target specific risk factors (maintenance of fluid and electrolyte balance, pain treatment, adequate brain oxygen delivery, regulation of bladder/bowel function, early mobilisation and appropriate environmental stimuli) or risks correlated to the care setting (anaesthesia, surgery and postoperative pain). There was a growing consensus of opinion on the importance of creating an interdisciplinary collaboration between clinicians to develop models aimed at reducing the incidence of delirium.

### Diagnosis

*Think delirium* was proposed as the mantra for evaluating confused aging hospitalised patients. The experts recommend the use of the 4AT test for delirium screening in clinical practice for several reasons, including brevity (it usually takes less than two minutes to complete), ease of administration and no requirement for special training or physical responses (Table 1). The 4AT test could also be included in routine nursing assessments. If diagnosed, delirium should be considered a high medical priority and the appropriate tests initiated without delay to determine the triggering cause.<sup>3</sup>

**Table 1. The 4AT test.**

1. Alertness	
Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.	Normal (fully alert, but not agitated, throughout assessment): 0 Mild sleepiness for <10 seconds after waking, then normal: 0 Clearly abnormal: 4
2. Abbreviate mental test 4	
Age, date of birth, place (name of the hospital or building), current year.	No mistakes: 0 1 mistake: 0 2 or more mistakes/untestable: 2
3. Attention	
Ask the patient: <i>Please tell me the months of the year in backwards order, starting at December. To assist initial understanding one prompt of What is the month before December?</i> is permitted.	Months of the year backwards: <i>Achieves 7 months or more correctly: 0</i> Starts but scores <7 month/refuses to start: 1 Untestable (cannot start because unwell, drowsy, inattentive): 2
4. Acute change or fluctuating course	
Evidence of significant change or fluctuation in: alertness, cognition, other mental function (e.g. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs	No: 0 Yes: 4
Results	
	4 or more: possible delirium 1-3: possible cognitive impairment 0: unlikely delirium

**Table 2. Delirium causes.**

Delirium causes	
DELIRIUMS	Drugs
	Eyes, ears
	Low oxygen insults
	Infection
	Retention of urine or stool
	Ictal
	Underhydration, undernutrition
	Metabolic
	Sleep deprivation

### Treatment options

No specific treatments for delirium are currently available. Treatment begins with a careful and thorough research of diseases and conditions that underlie the onset of delirium. Numerous acronyms have been used to remember the most frequent causes. The current recommendation is DELIRIUMS proposed by Flaberty. (Table 2) Behavioural therapy and appropriate non-pharmacological approaches are the standard initial treatment options. In cases where pharmacological measures are necessary (*i.e.* symptoms put the patient or others at risk of harm or are bothersome to the

patient and interfere with essential therapies), the judicious use of low-dose haloperidol or atypical antipsychotics is recommended. Benzodiazepine therapy is advocated only in selected patients with a history of abstinence from alcohol or benzodiazepines.<sup>4</sup>

### Intercommunication among patients, caregivers and family members

It may be beneficial to query family members or caregivers for additional perspectives on medical history, predominant mood and affect, and physical and social functioning of dementia patients. Knowledge of the patterns of certain pre-existing conditions could help with anticipatory planning. Moreover, family members may be helpful in settling and reassuring agitated patients. Regular engagement and communication with patients and their families regarding changes in medication and care is therefore recommended.

### Conclusions

The Federation of Societies has provid-

ed an invaluable opportunity for different disciplines to collaborate on research and educate a broader audience for prevention of disease. We believe that the newly developed consensus will provide significant benefits to facilitate improvements in the diagnosis and management of delirium.

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