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The management of agitation secondary to hyperactive delirium in the deteriorating patient

Abstract

Delirium is an under-recognised syndrome which adversely affects the deteriorating patient in the acute and long-term periods. It is associated with increased morbidity and mortality and extended length of hospital stay. Delirium management is often reactive rather than pro-active. This can lead to the inappropriate use of chemical and physical restraint to control agitated behaviour. Patients experiencing agitation are a nursing and organisational challenge and can be emotionally and physically draining for the nurse. This article reviews the hyperactive stage of delirium, one of three subtypes, but which presents specific challenges for the nursing and healthcare team.

Introduction

Delirium has been defined as a rapid onset, reversible, fluctuating condition characterised by inattention, changes in cognition, disordered sleep-wake cycle, and increased or decreased psychomotor activity (American Psychiatric Association, 2013). There are three main subtypes which are characterised by different psychomotor presentations. This article will focus on hyperactive delirium which, although the least common presentation of delirium (Krewulak et al, 2018), is the most recognisable and presents specific challenges when nursing the patient who is deteriorating physiologically.

Hyperactive delirium is characterised by agitated and restless behaviour, hypervigilance, and intolerance of clinical interventions and monitoring (Cavallazzi et al, 2012). Agitation is defined as increased psychomotor activity (Chevrolet & Jolliet, 2007) and can present as fidgeting and restlessness through to physical and verbal aggression. Patients with hyperactive delirium are at risk of disrupting medical devices and life-sustaining therapies and delirium is associated with increased mortality, prolonged hospital stay and psychological problems post-discharge (Salluh et al, 2015). In

addition, at this time, agitation and reduced co-operation with isolation procedures could lead to the intra-hospital spread of COVID-19 (Kotfis et al, 2020).

Knowledge of how to assess for and manage delirium is vital when managing the deteriorating or critically ill patient to avoid unnecessary further physiological or psychological deterioration. This article will present an overview of hyperactive delirium, its impact on the patient and nurse, and explore evidence-based management options.

Risk factors for delirium

The causes of delirium are multifactorial. Risk factors can be divided into pre-admission factors which predispose the patient to developing delirium, and post-admission interventions which increase the likelihood delirium occurring. Predisposing factors include existing cognitive impairment such as dementia, mental health disorders, and hypertension (Zaal et al, 2015). Alcohol and nicotine use have also be linked with the development of delirium (Heeder et al, 2015; Van Rompaey et al, 2009). The risk of developing delirium post-hospital admission is increased with multi-organ failure, deep continuous sedation, emergency admission, anticholinergic drugs, mechanical ventilation, and the requirement of invasive access devices (Zaal et al, 2015). The COVID-19 pandemic has brought further specific challenges, as delirium may be a feature of the neuro-invasive potential of the virus (Kotfis et al, 2020). In addition, environmental factors associated with the pandemic have been linked to the exacerbation of delirium through isolation, absence of visitors and reduced opportunities to engage with staff due to personal protective equipment (PPE) and high workload.

The nurse's experience of caring for a patient with hyperactive delirium

Although delirium is a form of acute brain dysfunction it is often seen as lacking importance when compared to other forms of organ failure (Zamoscik et al, 2017). In critical care, delirium is frequently considered to be inevitable and treated in a reactionary rather than proactive way. Nursing the patient

with psychomotor agitation is physically and emotionally challenging for the bedside nurse, and delirious patients are considered to be an unpopular allocation amongst critical care nurses (Williams, 2007). This unpopularity and perceived 'difficult' or 'deviant' behaviour can lead to nurses being unwilling to engage closely with delirious patients and the perpetuation of negative stereotypes (Carveth, 1995).

Critical care nurses have reported experiencing emotional and physical exhaustion stemming from caring for delirious patients, especially over long shifts (Yue et al, 2015). In addition to repetitive replacing of dislodged devices, patients with hyperactive delirium can inadvertently injure nurses. Actual or threatened violence can lead to stress and burnout amongst nurses (Lopetrone, 2006) and poor team cohesion (Langley et al, 2011). Nurse burnout and stress are associated with reduced quality of practice and care (Langley et al, 2011). In the case of hyperactive delirium, it may lead nurses to be more willing to use restrictive rather than therapeutic management methods (Teece et al, 2020) as a way of creating space for critical thought and respite. This experience is likely to be exacerbated by the COVID-19 pandemic as staff are less able to seek short breaks or peer support when managing patients with delirium due to infection control requirements.

The patient experience of delirium

Patients with delirium experience delusions, hallucinations, disturbed sleep cycles and hypervigilance. The delusions can be persecutory and the resulting fear can cause a patient to become agitated or combative. For example, patients describe being tasked with involvement in games, guerrilla warfare, or being held captive (Svenningsen et al, 2016). Such memories can merge with factual memories of critical care interventions, and cause considerable distress. A study by Wade et al (2015) found that many discharged from critical care had distressing intrusive memories of hallucinations and delusions. It is important that nurses caring for patients with delirium are aware of the lived experience of delusions and hallucinations. If the nurse is able to consider what the patient may be seeing or feeling, then it might enable improved understanding and management of resulting agitated behaviour.

Assessment of delirium

Subjective assessment has been shown to markedly under-diagnose delirium (van Eijk, 2012). However, delirium management is an essential aspect of the management of a critically ill patient and the use of a validated screening tool, enabling early treatment and appropriate management, can have a significant positive impact on patient outcomes (Trogrlic et al, 2016). Various tools are available and commonly used approaches are summarised in table 1 below.

The Confusion Assessment Method (CAM) has approaches for both ICU and non-ICU areas, and the 4AT tool is recommended for use in general clinical areas. The CAM-ICU has been demonstrated to have a high sensitivity when detecting delirium (Chanques et al, 2018). The CAM tools, like the other tools described in Table 1, are simple to use and can be taught easily. The tools adapted specially for ICU use allow the screening of intubated patients, who are unable to verbally answer questions (Chanques et al, 2018). Although simple and quick to use, challenges have been reported in integrating the tools into daily nursing practice. Educational support is required to ensure staff are integrating delirium screening into their clinical care (Elliott, 2014).

Screening tool	**Content**
Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)	Screens for acute onset mental status change or fluctuations; inattention; disorganised thinking. Developed specifically for ICU and can be used in intubated (non-verbal) patients.
Confusion Assessment Method (CAM)	Delirium detection tool for non-ICU clinical and research areas.
Intensive Care Delirium Screening Checklist (ICDSC)	Eight domains: consciousness, attentiveness, orientation, the presence of hallucinations or delusions, psychomotor agitation or retardation, inappropriate speech or mood, sleep/wake cycle disturbances, and overall symptom fluctuation. Developed for ICU patients.
4AT	The 4AT is designed to be used by any health professional at first contact with the patient, and at any other time when delirium is suspected. Can be used in general clinical areas. Incorporates the Months Backwards test and Abbreviated Mental Test – 4 (AMT4), which measure cognitive impairment.

Table 1 Commonly used delirium screening tools (Bellelli et al, 2014; Ely et al, 2001)

Clinical guidance for delirium management

In the UK, NICE (2019) guidance emphasises the need for regular assessment for delirium using a validated tool, such as those described above in table 1. Where agitation begins to endanger the patient or staff, or compromise care, guidance suggests that verbal and non-verbal de-escalation methods be first used prior to administering small doses of Haloperidol. Different evidence-based approaches to the management of agitated behaviour secondary to hyperactive delirium will be explored in this section.

Therapeutic management

Therapeutic or non-pharmacological management is recommended by NICE (2019) as the first-line method of managing agitation stemming from hyperactive delirium. Therapeutic management reflects the move to humanise ICU and acute care (Wilson et al, 2019). Delirium can be a dehumanising experience and this is exacerbated through the use of restraint to regain control over agitation. Therapeutic management includes the identification of risk or reversible factors contributing to delirium and the management of these factors. For example, the physical environment acute and critical care areas can be modified to reduce the incidence of delirium. An optimal environment is calm, well-lit in the daytime, with easily visible analogue clocks to aid orientation to time and place (Herling et al, 2018). Clear communication from clinical staff, including the use of written plans for daily activities are also recommended, together with distractions such as favourite music or media as appropriate (Herling et al, 2018; NICE, 2019). Open visiting has been recommended as part of the move to humanise ICU care (Wilson et al, 2019) and the opportunity for the patient to communicate with family members was shown to reduce the incidence of post-operative delirium (Eghbali-Babadi et al, 2017). Family involvement in care, alongside reduction in sedation, early mobilisation and regular screening for delirium form parts of ICU care bundles (Marra et al, 2017). The assessment and treatment of underlying causes contributing to delirium is also important. Dependence on alcohol,

drugs and nicotine are associated with the development of delirium (Heeder et al, 2015) and can be managed pharmacologically if assessed for early in admission.

Pharmacological management

Pharmacological management includes the use of drugs with the aim of modifying the severity and reducing the duration of delirium. Some pharmacological therapies are focused on controlling agitated behaviour and preserving the safety of patients and staff (Bourne, 2008). However, sedation is not a treatment for delirium, rather it masks symptoms and prolonged sedation or periods of deep sedation are associated with the exacerbation of delirium (Svenningsen et al, 2013; Zaal et al, 2015). The HOPE-ICU Trial (Page et al, 2013) demonstrated that Haloperidol has no impact on the duration or severity of delirium. The authors concluded that Haloperidol should be reserved for the treatment of intractable agitation which threatens the safety of patient and staff. In addition, low-dose prophylactic Haloperidol was shown to have no effect on delirium (Pu et al, 2018). Anti-psychotics such as Olanzapine have been used with the intention of treating hyperactive delirium, however this recommendation was removed from revised guidance (NICE, 2019).

Restraint

In the UK, restraint is defined in section 6(4) of the Mental Capacity Act (Department of Health, 2005) as the use of force, or threatened force, to make a person do something that they are resisting; or the restriction of freedom of movement. More explicitly, Martin & Mathisen (2005) define physical restraint in critical care as 'all patient articles, straps, bed linen and vest, used as an intervention to restrict a person's freedom of movement or access to their own body' (p. 134). Such articles commonly include 'boxing gloves' and soft wrist restraints in the UK (Bray et al, 2004). In ICU, chemical restraint in the form of continuous sedation is common and necessary to enable the patient to tolerate interventions such as endotracheal intubation. However, the use of additional pro re nata (PRN) or bolus sedation can be used as a further form of chemical restraint with the aim of reducing agitation. In this case, sedation would be used in excess of standard therapy (Bray et al, 2004). Both chemical

and physical restraint are employed in critical care areas with the given rationale of preserving patient safety (Benbenbishty et al, 2010).

Restraint should be a last resort when caring for a patient with hyperactive delirium. Physical restraint is associated with the exacerbation of delirium and can cause skin damage (Dolan & Looby, 2017). Critical care nurses interviewed by Dolan & Looby (2017) stated that they would use physical restraint with a delirious patient only as a last resort, acknowledging that addressing underlying causes and using non-pharmacological methods should be used first. There are wide variations in restraint use despite the presence of the Deprivation of Liberty Safeguards (Department of Health and Social Care, 2015). It appears to be difficult to objectively quantify the point at which restraint becomes clinically appropriate (Teece et al, 2020) and this has led to variations in practice. Education to support the correct management of hyperactive delirium should be provided to pre and post-registration nurses. Education has been demonstrated to reduce the use of restraint in critical care areas (Hurlock-Chrostecki & Kielb, 2006) through supporting staff and developing protocols to reduce variations in practice. Some restraint use could be attributed to the individual nurse's ability to cope with and manage agitated behaviour. Caring for a patient with agitation secondary to delirium is a physical and psychological challenge for the nurse. Some nurses have acknowledged that they make use of chemical and physical restraint to preserve their own safety or create space for critical thinking (Freeman et al, 2016; Lopetrone, 2006). Support and education for nurses caring for patients with delirium is essential to avoid burnout and maintain optimal patient care.

Points for practice

It is vital that bedside nurses assess regularly for delirium using a validated tool appropriate to their clinical area. The minimum recommendation is to assess once daily (NICE, 2019), however screening should be undertaken more regularly if deterioration or changes in level delirium status are suspected.

Subjective assessment of delirium is associated with under-detection and delays in addressing reversible factors (van Eijk, 2012).

Effective delirium care is an important aspect of humanising critical care and acute wards. Caring for the deteriorating patient can be associated with a loss of personhood. Interventions are performed because of clinical need rather than in collaboration with the patient. Agitation secondary to delirium is challenging to manage as communication between patient and nurse is complicated by the presence of delusions and hallucinations visible only to the patient (Svenningsen et al, 2016). Chemical and physical restraint further contribute to dehumanisation (Nin Vaeza et al, 2020) through the restriction of patient freedom. Continuous education and clinical supervision is necessary to support nurses caring for challenging patients.

Delirium should be recognised as a clinically important form of organ dysfunction. The non-involvement of medical staff in managing agitation can cause resentment to build between doctors and nurses (Palacios-Cena et al, 2016) and delirium and agitation management are under-emphasised in nursing education. The decision to apply restrain commonly rests with nursing staff (Teece et al, 2020). Hurlock-Chrostecki & Kielb (2006) demonstrated how education and culture change reduced nurses' reliance on physical restraints. Greater medical engagement with objective goal-setting, bedside guidance, and the presence of a management plan for acute agitation, could reduce variations in practice and increase nurses' confidence when faced with delirium and agitation (Teece et al, 2020). In addition, nurse fatigue should be considered where possible when allocating staff to delirious patients. Burnout is associated with reduced engagement with the patient (Yue et al, 2015) and negative impact on the delivery of therapeutic interventions. Regular breaks should be offered where possible and an acknowledgement from senior staff of the challenge delirium presents to the bedside nurse.

Conclusion

Delirium is a form of organ dysfunction prevalent amongst the deteriorating patient and critical care populations. Hyperactive delirium manifests as psychomotor agitation which can be challenging to manage especially during a period of acute physiological deterioration where monitoring is required. Repeatedly caring for agitated patients without support is associated with stress and burnout amongst nursing staff. It is vital that delirium careening tools are used appropriately and that medical and nursing staff collaborate in planning pre-emptively to manage agitated behaviour. Education and support can reduce the reliance on chemical and physical restraint as methods of managing agitation and emphasise the role of therapeutic management and addressing reversible factors leading to increased humanisation of cute and critical care areas.

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