

The importance of identifying delirium in older adults in the ED: Impacts on mortality and quality of life

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Introduction

In my work as a Geriatric Nurse Clinician I have the opportunity to work with some of the most vulnerable patients who present to our ED, and the time to do a detailed assessment. This includes understanding the patient's cognition and function prior to this presentation, and what changes may have occurred, as I assess for the presence of delirium. With my background as an ED nurse, I fully realize the limitations on time for most ED staff to assess such information, yet, as I learn more about delirium, I am increasingly convinced of the vital importance of early detection and intervention to decrease the associated morbidity and mortality for older adults.

Much literature addresses the development of delirium in hospitalized patients, and interventions to promote recovery. This important work is beyond the scope of this article. Here, the emphasis is on some recent studies that look at delirium on presentation to the ED, how ED nurses can contribute to an accurate diagnosis, the importance of distinguishing the presence of delirium, and ways we might improve emergency care for this population.

Definition

Delirium is defined as a "disturbance of consciousness with reduced ability to focus, sustain, or shift attention... not better accounted for by a pre-existing, established or evolving dementia... develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day."

Delirium may be classified as hyperactive—most easily diagnosed, as the patient is restless and unable to retain explanations; hypoactive—often missed, as the patient is drowsy and quiet, not obviously registering pain or distress; or mixed, when behaviour fluctuates between these two states. All forms tend to have alternating periods of relative understanding and attention. Often medical illness accounts for these changes, but in approximately 10% of cases, no cause is identified.

The patient may experience visual changes, hallucinations or illusions. For example, one woman perceived the bedside curtains as waterfalls. Generally, patients are fearful of these perceptions, later describing an awful experience in which they felt no one was helping them; thus they react with fight or flight. Although persons of any age can develop delirium with sufficient insult such as illness and toxicity, in the ED setting it is often seen in older adults. It is identified as a medical emergency.

Importance in the ED

What is particularly important about this emergency in a setting of total emergency care? While airway, breathing and circulation are generally intact, disability is evident with altered level of consciousness (LOC): decreased consciousness and/or periods of hypervigilance occur. Delirium is an unstable condition that will generally progress without appropriate interventions.

Prognosis

Delirium has been noted for the past 2,500 years. From the beginning, it was noted to carry a high mortality rate, and survivors often developed dementia and functional deficits. Persons who already had dementia were at greater likelihood to develop delirium, and acceleration of their dementia was likely to follow. These observations have been confirmed in recent studies. In the last century delirium was recognized as a temporary condition, which would often resolve with appropriate care. Many patients regained their premorbid functioning. More recent studies following patients post-discharge note those who have had delirium often experience ongoing short-term memory deficits, disorientation and inattention. Not only is the mortality rate high during the acute phase, it continues to be increased for six to 12 months following discharge, approximately 30% at 12 months. Patients with delirium have longer admissions for the same underlying diagnosis. Prolonged delirium is associated with a greater degree of residual cognitive impairment and loss of function. In fact, functional decline is often so great that persons who were fairly independent before developing delirium require significant assistance, even transfer to a long-term care facility after the illness and delirium have resolved.

The economic implications have been compared to diabetes, the mortality rates similar to acute coronary syndrome (ACS) or sepsis.

Risk factors, precipitating events

Etiology and pathology of delirium are not fully understood, but changes in neurotransmitters and in cerebral metabolic activity have been implicated; changes in EEG waves have been identified. The presence of delirium involves a combination of risk factors and insults. Predisposing factors include:

- age over 70 years
- cognitive impairment including dementia or previous CVA
- visual or hearing impairment

- use of multiple medications
- severe comorbidity such as several chronic illnesses
- malignancy
- previous episodes of delirium.

Events precipitating this episode may include:

- a new disease process, such as ACS or CVA
- infection, particularly urinary tract, lungs, skin, GI
- hypoxia
- dehydration
- electrolyte imbalance
- change in status of a chronic disease such as diabetes
- pain
- new medication
- alcohol or drug toxicity or withdrawal
- constipation
- urinary retention.

Relocation, sleep deprivation, medication changes including analgesics, under- or over-stimulation, physical restraints and indwelling catheters may all be implicated as iatrogenic factors. While some of these stressors may be unavoidable, they will contribute to the development and continuation of delirium.

Delirium often not diagnosed

Why is this emergency condition so often missed? It has been estimated that 10% to 30% of older adults present to the ED with delirium. Many more will develop symptoms during their admission. One recent study cites the diagnosis being missed in the ED 75% of the time, and found that if delirium was not diagnosed in the ED, it was less likely to be identified once the patient was admitted. If it was diagnosed in the ED, it was more likely to be treated appropriately throughout the admission. When delirium was present but not diagnosed in the ED, and the patient was sent home, the mortality rate over the next six months was nearly 31%. If delirium was diagnosed and the patient was discharged, the mortality rate was closer to 12%, similar to that of patients without delirium.

Delirium is a clinical diagnosis; signs are often subtle. Patients who are in delirium are generally not able to give an accurate description of their symptoms and onset. Ascertaining their baseline involves getting information from family members, caregivers, or previous charts, all of which take time.

As delirium is a sudden change characterized by fluctuations in LOC, any screening tool used needs to discern these hallmarks. The widely accepted Confusion Assessment Method is used to detect acute onset and fluctuating course, inattention, and either disorganized thinking or altered LOC. Other causes of cognitive impairment, such as dementia or depression tend to show a steadier pattern of impaired cognition over two weeks to several years. Accurate diagnosis of delirium can take time, particularly if we do not have a clear picture of this person's baseline, what changes have been observed, and over what period of time. One test that is sometimes recommended is to have the patient recite the last six months of the year in reverse order—this is an indication of the person's attention, but will be of use only if he could name the months prior to becoming ill.

Challenges and opportunities

As this is a serious condition that is shown to be improved by early detection and intervention in the ED, we need to have a high level of suspicion for its presence and consistently assess for delirium. If in doubt, treat as for delirium; we may help to prevent its development.

One study, emphasizing the similarity of management of ACS and sepsis to that needed for delirium, has outlined a two-step approach, with initial assessment at triage to identify those who need more in-depth assessment by a physician. This was shown to be effective when the triage assessment was positive for cognitive impairment, but did not identify patients at risk by history. Thus we may be able to establish delirium at triage, but a negative screen there does not preclude its presence; it only means we must continue to be vigilant in assessing for it during ongoing examination. We need to consider those at high risk, and obtain accurate histories from caregivers and family members. Ask specific questions about previous function and recent changes: does she cook? Have you noticed any changes in her thinking in the past few days? Has his behaviour changed? What have you noticed? Has he experienced acute confusion (delirium) with previous illness? Ask about visual changes; while not diagnostic of delirium, they may be an early indication of its development and are a sign of mental changes to be monitored.

Communicate

When delirium is identified, communicate your concerns to others on the health care team. To say, "of course he's confused, he has dementia," is not good enough. Nursing assessment is important; advocate for an accurate diagnosis: "there has been a change in this patient over the past three days and he screens positive for delirium on the CAM tool." Ensure those who assign beds know this patient is a priority for transfer to a unit, out of the busy ED. Share the diagnosis with other staff caring for the patient.

Management

Management of delirium in the ED includes identification and management of possible causes. While one problem may be the culprit, in approximately half of the cases, more than one factor is responsible. As well, further risks such as dehydration may develop once the initial illness has become established. Attention to prevention of iatrogenic factors is needed.

Management of symptoms of hyperactive delirium can be extremely challenging, as patients may be fearful, combative, inclined to get up, but at risk for falls and wandering due to weakness and impaired cognition. Non-pharmacological interventions should be tried first, to avoid side effects of medications: attention to comfort, including toileting, presence of someone familiar to the patient, good lighting, ensuring the patient can hear, addressing the patient by name, avoiding jargon and giving instructions one step at a time can help the patient cooperate with what is needed. In some cases, sedation may be necessary to accomplish investigations. Haloperidol 0.5–1 mg as a starting dose, to maximum of 1.5 mg in 24 hrs is recommended, although for patients

with Parkinson's disease this is contraindicated; a low dose of short-acting benzodiazepine may be needed. Physical restraint is likely to increase agitation and fall risk but, as a short-term measure, careful least restraint measures may be needed, for example, to maintain an intravenous line for necessary fluid and medication.

Disposition

In most cases, admission to hospital will be needed for treatment of the underlying condition, or for diagnosis when this is not clear in the ED. Relocation is a risk factor for delirium; simply being kept in an unfamiliar environment can precipitate acute confusion in demented patients. If adequate treatment and safety can be provided for the patient at home, the patient will benefit from the familiar environment. If admission is required, regular visits and support from family and friends can promote safety, comfort and recovery.


The first step to help patients recover from delirium is to make the diagnosis. I believe emergency nurses can contribute with increased awareness and attention to subtle, but identifiable changes.

Practice points

- Consider the likelihood of delirium in older patients, and screen consistently
- Ensure adequate oxygenation
- Assess medications taken, and recent changes, particularly those with anticholinergic effects such as Diphenhydramine (Benadryl), Dimenhydrinate (Gravol) or tricyclics
- Assess carefully for infection; these patients are generally not good historians, so check for UTI, joint swelling and warmth, skin breakdown, GI or pulmonary source, throat infection or other abnormal findings
- Look for signs of dehydration, particularly dry oral mucosa and “sticky” gums

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- Check for and treat constipation
- Seek collateral information from family or other caregivers; ask for specific information about mental changes and changed behaviours
- Remember there may be several contributing conditions, and attention to a number of small needs can bring improvement
- Assume pain is contributing until proven otherwise; a trial of regular dosing of a mild analgesic may improve comfort and promote sleep. When a source of pain is known, even if the patient does not identify it, provide appropriate analgesic. Although opioids may contribute to delirium, untreated pain is a more significant contributor. Hydromorphone is generally preferable to morphine, as the metabolites are less likely to accumulate and worsen delirium
- Do all you can to prevent the development of delirium. Avoid precipitating and perpetuating factors when possible. Don't make it worse! Remove Foley catheters when they are no longer needed, e.g., when patient stabilizes and accurate measurement of output is not necessary. Get patients out of bed for short periods at least three times a day. If swallowing screen is negative, give fluids frequently; request order for IV if needed
- Encourage family presence; they are familiar in the unknown, and can identify early subtle changes, helping in accurate assessment. Educate them about delirium so they understand the importance of their presence and assistance. 

About the author



Cathy Sendeck has worked at Burnaby Hospital Emergency Department since 1987, in the past several years as Geriatric Emergency Nurse Clinician, as part of the Older Adult Program. Particular interests include working with persons with dementia and their care partners and

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