

Care of NHCU Patients with Delirium at the End of Life

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Delirium or acute confusion

“Most common and serious neuro-psychiatric complication in the patient with advanced illness. It has enormous relevance to symptom management control and palliative care.”

Delirium cont.

“It is arguably the most important mental disorder at the end of life because of its high prevalence and deleterious impact on quality of life, behavior, and communication. Delirium undermines several important goals of care at the end of life, including comfort and meaningful interaction with family.”

Gadzini, 2007

Research in delirium in residents receiving palliative care in nursing homes

- Few studies of delirium in NH settings
- Most studies of end of life delirium occur in palliative care settings where cancer is the most common diagnosis.
- Cancer is the 2nd most common cause of death in NH residents but only 17% of all cancer deaths occur in NHs.

Delirium in NHCU setting cont.

- In one randomized controlled trial to increase hospice enrollment in the NH:
 - 62% of study participants had dementia
 - 39% had cardiopulmonary disease
 - Only 4% had cancer

Delirium in the NH often occur in the context of dementia.

Cassarett, Karlawish, Morales et al, 2005

Delirium statistics:

- End stage cancer and AIDs patients most vulnerable with prevalence 25-85%
- Elderly patients who develop delirium during a hospitalization are estimated to have a 22-76% chance of dying during the stay.
- Most common mental disorder among dying patients occurring in up to 90% of cancer patients in the final weeks of life.

More on delirium

- Delirium interferes with recognition and control of other physical and psychological symptoms, negatively impacts both length and quality of a palliative care pt's remaining time, and affects the pt's ability to make medical decisions for him or herself.
- Usually a preterminal event and a signal of physiological disturbance involving multiple medical etiologies (infection, organ failure, med side effects and the rare paraneoplastic syndrome).
- Often misdiagnosed, untreated or ill treated.

DSM IV Criteria for Delirium

- Disturbance of consciousness (ie, reduced clarity of awareness of the environment) with reduced ability to focus, sustain or shift attention
- Change in cognition (memory deficit, disorientation, language or perceptual disturbances) not better accounted for by pre-existing dementia
- Develops over a short period of time and fluctuates over course of the day
- Evidence from the H&P or test results of a general medical condition deemed etiologically r/t the change

Sub-types of delirium

Hyperactive—hyperarousal, hyperalert, agitated and most often characterized by hallucinations, delusions, agitation and disorientation

Hypoactive—hypoarousal, hypoalert, lethargic and most often characterized by confusion and sedation but rarely the others listed above

Mixed Type—Elements of both of the above.

2/3 of deliria are of the mixed or hypoactive type

More on the sub-types

- **Hyperactive**

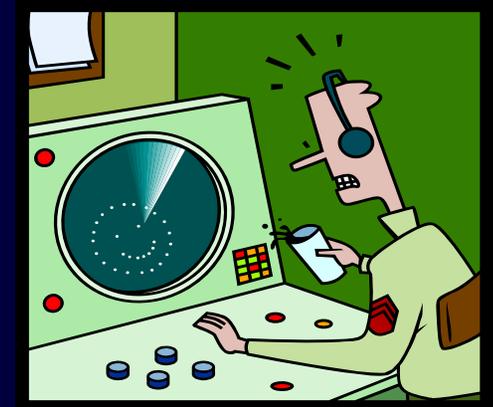
- Pt perceived as having substantial suffering
- Often precipitates a crisis resulting in hospitalization or inpatient hospice admission
- Hallmark of a “bad” death
- Controversy re: primary cause: medical/physical vs psychosocial/spiritual distress

- **Hypoactive**

- So common, not considered clinically important
- Laissez faire attitude about it may not be appropriate
- In one study of 109 admits to an inpatient palliative care unit, 29% had delirium; 78% had hypoactive type Spiller and Keen, 2006
- Research shows level of distress the same.

Under the radar scope

- Symptoms of hypoactive delirium are easy to miss and treatment has received less attention in the literature:
 - Slowed psychomotor function
 - Lethargy
 - Confusion
 - Sedation
 - Reduced awareness of and interaction with surroundings
 - Impaired ability to sustain attention



Delirium vs psychiatric disorders

Delirium vs Depression:

Degree of cognitive impairment more severe and pervasive than depression and more abrupt onset and the characteristic disturbance of arousal usually not a feature of depression.

Delirium vs Mania:

Knowing onset and course of symptoms, arousal disturbance, change in cognition and medical etiology will distinguish

Delirium vs Psychosis:

In delirium, psychotic symptoms occur in context of disturbance of arousal or consciousness, memory impairment and disorientation which is not the case in psychosis. Delirium has abrupt onset; hallucinations in delirium are usually visual or tactile rather than auditory as in schizophrenia.

Why is it important to differentiate?

- Clinicians often fail to recognize delirium and overlook 50% of cases Bruera, Miller, McCallion et al, 1992
- Symptoms attributed to other psych disorders such as depression/anxiety
- Other psych diagnoses can't be validly made in the context of delirium and most treatments for depression and anxiety will be ineffective or even harmful if the patient has delirium Ganzini, 2007

Delirium vs Depression

- Diagnosing depression in dying patients is difficult as the clinician needs to weed out how to “count” neurovegetative symptoms (eg, anergia, anorexia, weight loss, sleep or psychomotor disturbance) toward the diagnosis of depression when these symptoms may be due to the underlying medical disease in the absence of depression.
- Symptoms of delirium may mimic those of depression and therefore patients who score highly on screening tests for depression may in fact have hypoactive delirium
- Any assessment of depression in palliative care must include an assessment for delirium

Take home points on depression in dying patients:

- Depressive symptoms are common in dying patients
- Depression in dying patients is multifactorial in origin.
- Depression is associated with poorer will to live and greater desire for hastened death. It is assoc. with excess functional morbidity and poorer quality of life in dying patients making it a target for palliative care.
- Better treatment of chronic pain or other physical symptoms may result in improvement in depressive symptoms (and vice versa).

Delirium vs Dementia

- Most common differential dx is delirium, or dementia, or delirium superimposed on dementia.
- At the Battle Creek VAMC, with the number of mentally ill patients treated in palliative/hospice care, the differential is made even more difficult as mental illnesses, dementia and delirium may all occur together!!!
- No research currently describes clinical manifestations of patients dying of dementia with delirium

Delirium vs Dementia

<u>Feature</u>	<u>Delirium</u>	<u>Dementia</u>
Onset	Sudden/over hrs to days	Gradual/months-yrs
Diurnal course	Usually worse at noc	Stable over 24 hrs
Sleep-wake cycle	Severely disordered	May be normal
LOC	Impaired/fluctuates	Normal
Hallucinations	Frequent/often vivid	Rare (except Lewy B.
Orientation	Disoriented to time	May be impaired
Level of activity	Abnormally reduced or increased/agitation	Usually normal

Delirium and Pain

- Pain may worsen delirium
- Delirium assoc. agitation and restlessness are often misinterpreted as worsening pain
- Bruera et al found that both MDs and RNs misinterpreted agitation as an expression of pain in patients with hyperactive delirium even though before and after the delirium, pain was well controlled.
- This may lead to excessive opioid use which may worsen delirium unnecessarily
- Many demented patients can't use numeric pain scales—the PAIN AD includes assessment of symptoms akin to hyperactive delirium
- Area deserves more research.

Caveat about “identifying causes”

- **Standard approach to delirium is to “identify and treat the underlying causes”**
- **This may not always apply to dying patients**
- **Causes may not be remediable (disease process itself or drugs to treat symptoms such as steroids) or workup precluded by patient/family decisions**



“Visits by loved ones”

- Patients’ descriptions of “visits” by loved ones who have died before them should not be mistaken for delirium or confusion. Although labeled by some as hallucinations, these encounters usually appear to be comforting to dying patients and consequently may not require medical treatment

Ross and Alexander, 2001

Common Causes

- Direct CNS causes:
brain primary tumor or mets
- Treatment Side Effects
Chemotherapy agents
Steroids
Opioids
Anticholinergics
Antiemetics
Brain irradiation
Antivirals (Acyclovir)
Opioid/Benzo withdrawal
- Pain
Uncontrolled Pain
Full bladder
Fecal impaction

- Withdrawal
Cessation of meds like benzos or alcohol
Metabolic encephalopathy or failure of vital organs
Blood glucose fluctuations
Hypercalcemia
Elevated ammonia
Uremia
Hypoxemia r/t resp or cardiac failure or anemia
Thyroid or adrenal dysfunction
- Infection
- Nutritional deficiencies
Thiamine def—Wernicke-Korsakoff
Folate/B12 def--dementia
Dehydration

Delirium Screens

- **Confusion Assessment Method (CAM)**

- Acute onset and fluctuation
- Inattention
- Disorganized thinking
- Altered LOC

Must have both 1 and 2 and either 3 or 4.

- **Mini-Mental State Examination (MMSE):**

- can not distinguish between delirium and dementia at any one point
- O'Keefe et al 2005 reported that a decline of 2 or more points was 93% sensitive/90% specific for delirium dx in geriatric patients.

Delirium Screens cont.

- **NEECHAM**
Confusion Scale

- Three subscales include processing, behavior, and physiological control.
- Scores range from 0-30. 0-19 represents severe AC, 20-24 mild confusion, 25-26 at risk, and 27-30 no confusion

- **Memorial Delirium**
Assessment Scale
(MDAS)

- Validated in advanced cancer patients
- Useful in palliative care

– Briebart, Rosenfeld, Roth et al, 1997

Assessment

- Medical History (MMSE on admission as a baseline helpful)
- Physical Exam
 - Hypotension & dehydration
 - Apnea/Hypoxia
 - Fever
 - Focal neurological changes
 - Asterixis
- Common Labs
 - CBC with diff
 - Electrolytes
 - BUN and creat
 - Calcium
 - Magnesium
 - Phosphorus
 - Glucose
 - UA
 - O2 saturation

Dx and Tx Dilemmas

- Lawlor et al 2000 found a median of 3 precipitating factors per episode of delirium among advanced cancer patients
- In 50% of advanced cancer patients, eval doesn't reveal any other cause than the primary terminal illness
- How aggressive/invasive will the provider be or patient/family allow the provider to be in evaluating causes?
- If dementia is present, lack of capacity puts these decisions on the surrogate(s)
- IV or subq hydration as an approach to delirium controversial and no standard of care among palliative care patients in last weeks of life has emerged. Provider must be skilled in discussing symptom relief vs prolongation.

Management of Delirium

Geropsych or psych consult if available can be helpful with assessment and treatment

but:

“Beware of the well-intended but disastrous consultation for terminal distress at the end of life...many psychiatrists and geriatricians have been poorly trained in this area...”

James Hallenback MD

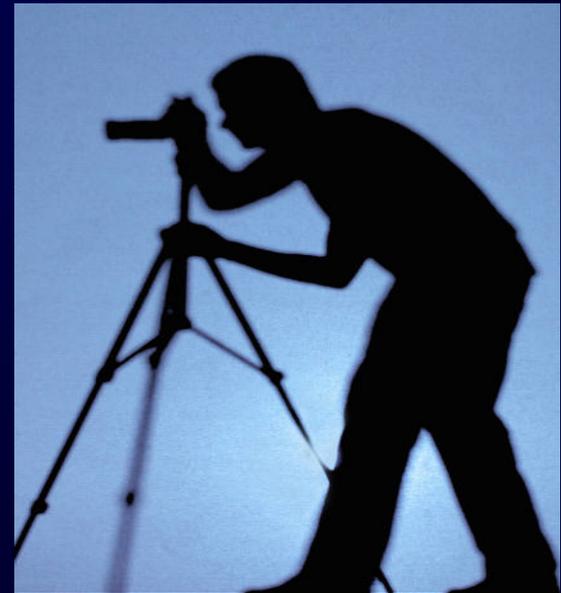
Some problems with psych consults and terminal delirium include:

- **“Consult and run” phenomenon—brief look at the patient with little or no followup as to effectiveness of treatment**



Problems with psych consults cont:

- “Snapshot” phenomena—consultant sees the patient during that brief window of mental clarity and doesn’t touch base with the team or the family to gather data about the other 23 hours and 55 minutes in the day.



Capturing the psych consultant:

- Detailed, objective information into the consult request with overview of behavior throughout the day, evening and night
- Brief review in the consult request of baseline behavior in the home (if new admit) or prior to acute confusion
- Salient information regarding your review of possible medical causes of delirium in the consult request
- Level of distress the acute confusion is causing the patient, family and staff.
- Phone the psych consult or discuss case in person if possible if there are questions about recommendations



Clinical Pearl:



Patients, families and providers sometimes collude in avoiding discussion of emotionally laden topics during periods of clinical stability—since delirium is common at the end of life, use the window of clinical stability to thoughtfully discuss future interventions with the patient and family
Lyness, 2004

Management of delirium cont.

COMMUNICATE WITH PATIENT AND FAMILY

1. Elicit the symptom history, discuss role of therapies, characteristics of delirium, relationship to disease, and fluctuation of cognition—it's not “craziness,” not pain or suffering, not necessarily imminent death.
2. Discuss goals of care
3. Customary for families to blame opioids for mental changes and in home setting to either hold these drugs as causative agents or to double up because they think agitation can be controlled with more drugs—teach about physiological changes contributing to mental status
4. Methods of diagnosis and treatment will depend on the goals of care and often where the patient is at in the illness trajectory—goals can range from maintaining function and communication with others to facilitating calm, sedation and anxiolysis even if this worsens confusion.
5. Review communication techniques: no need to immediately reorient, don't contradict or challenge, and calm, soothing, relaxing approach.

Communication with the patient and family continued:

- In early stages of delirium, the patient may become aware of his own alterations—simple questions like “Do you feel confused?” may help the patient become aware of his/her own confusion
- Since short term memory loss is often more evident, stimulate long-term memories to re-establish trust and orientation
- Do not ask the same questions repeatedly if the patient can not recall.
- Stimulate the patient to perform easy tasks such as eating
- Maintain a respectful and empathic relationship even if the patient is more negative.
- Show an interest in the veteran’s fears, anxieties and perceptual disturbances.

Environmental approaches:

- **Familiar people and objects around the patient**
- **Soft voice tones and physical contact**
- **Limit the number of visits/visitors at bedside at one time**
- **Avoid distressing extreme sensory experiences (heat, cold, lights)**
- **Avoid changing the position of the bed**

Pharmacologics for Hyperactive Delirium

***Drugs of choice for hyperactive delirium are neuroleptics (although NONE are FDA approved for this purpose):**

Haldol—less sedation, less anticholinergic and cardiovascular side effects.

For more sedation—**Thorazine** (comes in concentrated soln, IM and rectal routes); avoid in Parkinsons; lowers seizure threshold; dose variable—titrate to symptom management).

Olanzapine and **Risperidal** also options and may be better tolerated among elderly. Olanzapine also beneficial for appetite and has a more sedative effect (dose at night). Response time is longer

***Benzos can worsen delirium, particularly in elderly—be clear about the goals of care when using benzos.**

Can be added in cases when anxiolytic and sedative effects are desirable—like alcohol, some pts react to benzos with sleepiness and others with disinhibition

When delirium does not respond to Haldol, a trial with a benzo is suggested. In a randomized study, it worsened delirium when used solo. Ativan can be given oral (tab/liquid), IM, or sublingually. Short acting benzos more useful

More on Haldol:

- First choice in treatment
- Effective for hypo and hyper active delirium
- Does not induce sedation—helps treat agitation and allows the patient to rest.
- More effective with the positive symptoms of delirium: agitation, abnormal ideation, or hallucinations
- Few side effects—mainly extrapyramidal: muscle stiffness, early dyskinesia, and trembling
- Can be administered orally, subq, IV and IM
- Practical guideline: initial dose 2 mg po or 1 mg subq every 6 hours with an additional dose every hour as needed due to agitation or hallucinations
- Overall, most pts can be treated with daily doses under 20 mg (some may require higher).

What about hypoactive delirium?

- **Psychostimulants such as methylphenidate can be effective in hypoactive delirium. These drugs have also shown efficacy in depressive syndromes and in relieving asthenia in cancer patients**

» Centeno, Sanz, and Bruera, 2004

Interesting Research:

- Bruera et al, 1995
 - Studied effectiveness of opioid rotation and hydration interventions to treat delirium
 - Looked at 117 records of pts admitted to a PC unit before implementation and 162 after implementation
 - Evidence of impaired mental status and agitated impaired mental status was sought in record reviews
 - Results showed that the frequency of agitated impaired mental status did decrease significantly from 26% to 10% between the two time periods.
 - Hydration and opioid rotation interventions helped prevent the development of agitated delirium

Interesting Research cont.

- Study in 2000 reported a high prevalence of pts requiring sedation for delirium in Spain as compared to South Africa or Israel
- In 1994, researchers found that the percentage of pts in Madrid who were knowledgeable or sought information about their disease process was considerably lower than data for Anglo-Saxon cultures.
- Some pts value clarity of mind and complain when medications impair their ability to think and concentrate. In other cultures, this is less important. Do less informed pts/families become more distressed with symptoms of delirium? If clarity of mind not necessarily a cultural must, then sedation more acceptable?

Future research questions:

1. Do non-cancer illnesses have the same or different vulnerabilities for occurrence of delirium at the end of life (most research thus far done with CA)?
2. What factors lead to increased risk for delirium in CA and non-CA terminal illness?
3. Are pts with CA with delirium more likely to demonstrate the hypoactive behaviors?
4. How do other end of life symptoms interact with the onset and course of delirium?

Wakesfield and Johnson, 2001

Research needed:

- Research regarding management of terminally ill patients with mental illness is necessary—there is little information available. However, these patients often are the most challenging for palliative care teams to tackle.

Case Study #1

- 86 year old male vet
- At home with dtr under home hospice care for 6 mos
- Hadn't seen MD for six months
- Multiple medical problems—CHF, CAD, CRI, OA, HTN, GERD, urinary incontinence, mild dementia
- Chronic hypoxia and O₂ dependent
- High curmudgeon factor!
- In the last 2-3 weeks, multiple falls, increased confusion, wandering at night and not sleeping
- Primary caregiver—boyfriend of dtr—recently deceased
- Vet very HOH and mildly demented at baseline
- Hospice staff had instructed family to increase Ativan 1 mg to QID—on admission, family reported giving Ativan 2 mg po q4h ATC for the last 1.5 weeks.

Case Study #1 cont.

- Veteran admitted 12/8/07
- H&P:
 - Dtr reports increased confusion, wandering, falls, agitation, insomnia as big change in the last 2 weeks
 - Vet alert but oriented only to his name—tangential in conversation, restless, confused and very HOH
 - Incontinent of urine at times (recent development)
 - Chronic pain to the lower back treated for some time with Lidoderm patch and Tramadol q HS.
 - Very unsteady on his feet—attempting to stand without assist—high risk for falls
 - Mildly hypoxic with pulse ox 88% on O2 at 2L; congested cough; low grade temp.
 - Skin turgor fair to poor; oral mucous membranes dry; family reported decreased urine output

Case Study #1 cont.

- **Care goals:**

- Vet lacked capacity—dtr DPOA for HC

- Dtr wanted vet as functional and alert as possible within limits of his multiple medical problems but care directed toward his comfort

- Dtr would allow blood tests and x-rays if deemed necessary

- Dtr did not desire acute hospitalization at the time of admission

- Dtr would consider IV fluids and/or antibiotics if necessary for comfort

Case Study #1

- **Diagnostics:**

- Labs: CBC (mildly anemic); BMP (BUN 40/Creat 2.7)
- CXRAY—end stage COPD
- UA—not remarkable

- Veteran's long-time ATC caregiver recently deceased; dtr worked and unable to provide ATC care herself (loss and grief factoring in?)

- **Interventions:**

- Med review—d/c Lasix; decrease Lisinopril dose; wean Ativan down and off
- Psych eval—Haldol 0.25 mg bid
- Moxifloxacin and when fever cont., Rocephin
- Fall alarms; low bed
- Room across from station
- Push fluids
- Resp therapy titrated O2
- Lots of staff interaction
- Ambulation program
- Audiology provided hearing device

Case Study #1: What happened?

Within two weeks, the delirium cleared. Vet was mildly demented but was able to ambulate ad lib with a rolling walker and converse with staff

He was transferred to the wander guarded unit and allowed to move freely on the unit

Because he improved so remarkably, the dtr changed the care goals—more aggressive approach desired.

Later, the veteran succumbed at a community hospital to pneumonia.

Case Study #2

- 78 yr old male veteran admitted from his home
- Large R lung mass—had seen AA2 pulmonology—vet did not desire bronch; chemo not recommended and rad tx offered for palliation
- Problems in the home included no ATC caregiver, mild confusion, not taking meds correctly, rather severe pain and numbness to R back, shoulder and arm, and constipation
- Veteran on multiple medications at home—three different opioids (Vicodin, oxycodone and Morphine) and several antihypertensives

Case Study #2 cont

- On admission: alert & oriented x 3 but forgetful, HOH, ambulatory, self care for ADLS
- Pain scores 8-10
- Hypoxic with pulse ox on arrival 81% on RA
- Constipated—no BM for 5 days.

Case Study #2 cont

- Goals of care
 - Veteran on admission considered medically capable—desired comfort care and no tx to prolong life
 - Son the DPOA for HC and same goals as veteran

Case study #2 cont

- For pain: Morphine LA and IR and gabapentin (brachial plexus syndrome?)—steroids helpful but often deliriogenic in geriatrics so not first choice
- For constipation: Sennekot and MOM and enema on admission
- For hypoxia/shortness of breath: O2 and nebulizers

Case study #2 cont

- On morphine, vet developed myoclonus rather quickly
- Intermittent confusion, hallucinations, and tangential conversation after 2-3 days on the morphine
- Hypotensive—all antihypertensives discontinued
- Oral intake poor as delirium worsened

Case Study #2 cont

- Bedside eval revealed distended abd—ISC with 800cc urine out—foley anchored
- 24 hours later—hematuria with cloudy urine and vet c/o burning and pressure
- UA and CS done—UA with 4+ bacteria and many WBCs/nitrite positive
- Vet more congested and hypoxic—nonproductive cough

Case Study #2 cont

- Interventions for delirium:
 - Narcotics switched out as vet still in pain—Fentanyl and oxycodone for BTP and doses increased as necessary/cont. Gabapentin and titrate upward
 - Discussed tx for infection with son—prescribed Rocephin IM for UTI
 - Moved vet to room closer to the nurses station for observation
 - Fall alarms to bed and chair
 - Low dose Haldol po prn for delirium symptoms

Case Study #2 cont

- Over a period of several days, the vet's condition gradually improved in that he was back to baseline LOC, afebrile, pain controlled, taking po food and fluid and out of bed again.
- Patient and son asking if the antibiotic actually prolonged his life—did it or was it an intervention for the pain/burning on urination with the severe UTI (with comfort as the goal?)

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