Geriatric Delirium

Dr. Peter Chan, MD, FRCPC

Consult-Liaison and Geriatric Psychiatrist, Vancouver General Hospital.

Clinical Professor,

UBC Dept. of Psychiatry.

Disclosure

Co-owner and clinician at Brainstim Healthcare (rTMS)

Mr. Lee is a 74 year old retired Taiwanese businessman, living alone with no home supports in a condo with elevator. He was referred to long term care by the Emergency social worker at the local hospital because of being seen in the ER for his 3rd visit in a month due to falling and injuring himself. Also, there are concerns about his ability to manage at home given his frailty and apparent malnutrition. With this last fall, he sustained a bruised hip. X-rays revealed no fracture. He was given a prescription of Tylenol #3 to be used as needed, and released back home again. ER notes indicate his next-of-kin, his son, is out of town and could not be contacted.

Upon review of the case, the long term care (LTC) assessor requests home care nursing and the mental health outreach team to see him first to review his ability to manage medications and personal care, prior to a formal LTC assessment which cannot be scheduled earlier than 3 weeks from now. You, as the psychiatric resident, see him on a home visit with your supervisor and the case manager 6 days after he was in the ER. The place appears clean and he has food in the fridge. He appears thin, somewhat unsteady on his feet, and ambulates slowly without aides. He is fluent in English, but has some latency of speech. He is concerned about the recent falls, but is resigned to this as being a sign of aging. Overall, he appears apathetic with very little emotional expression, and somewhat distracted by the noise of construction workers repairing his “leaky” condominium complex. He acknowledges not sleeping or eating well.

Question 1: Mr. Lee

What are the possible reasons why he is in this condition?

Screening: CAM-Short Form

CAM SHORT FORM

CAM: Confusion Assessment Method
The diagnosis of delirium requires the presence of features 1 and 2, *plus* either 3 or 4.

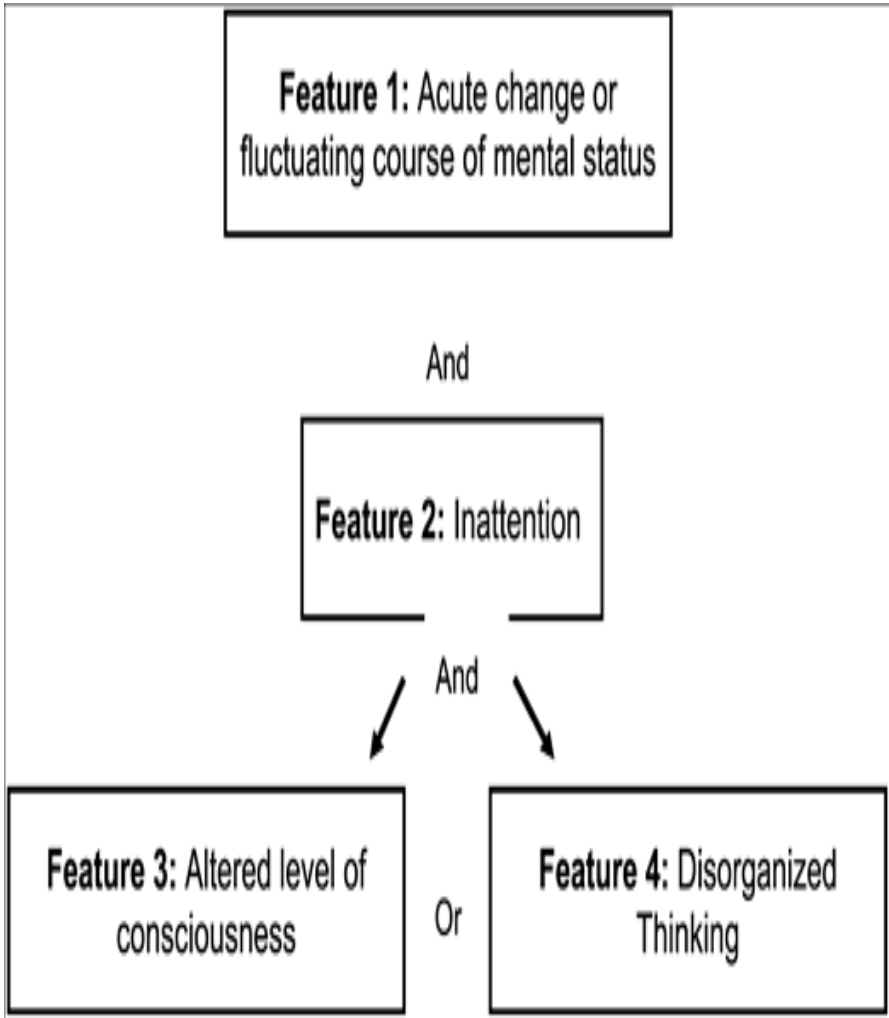
Feature 1: Acute onset and fluctuating course
This feature is usually confirmed by comments of a family member or health care professional and is shown by positive responses to the following questions:
- Is there evidence of an acute change in mental status from the patient's baseline?
- Does the (abnormal) behavior fluctuate during the day, tending to come and go, or increase and decrease in severity?

Feature 2: Inattention
This feature is shown by a positive response to the following question:
- Does the patient have difficulty focusing attention? For example, is the patient easily distracted or having difficulty keeping track of what is being said?

Feature 3: Disorganized thinking
This feature is demonstrated by a positive response to the following question:
- Is the patient's thinking disorganized or incoherent, as evidenced by rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?

Feature 4: Altered level of consciousness
This feature is shown by one answer other than "alert" to the following question:
- Overall, how would you rate the patients level of consciousness?
  - Alert (normal)
  - Vigilant (hyperalert)
  - Lethargic (drowsy, easily aroused)
  - Stuperous (drowsy, difficult to arouse)
  - Comatose (unarousable)

CAM ALGORITHM



Mr. Lee called an ambulance two days later on a Friday night that brought him back to the Emergency because of sudden onset of left sided weakness and facial paralysis. His BP=***150/90*** and he has a dense left hemiplegia (paralysis). Mr. Lee is markedly uncomfortable when his hip is examined, but the hip exam was otherwise regarded as normal, as was the rest of the physical exam. CT scan of the head shows a ***large right middle cerebral artery occlusive stroke involving frontal, temporal, and parietal areas***. He is in atrial fibrillation, which has not been diagnosed in the past. He is known to have hypertension, coronary artery disease, congestive heart failure, non-insulin dependent diabetes mellitus, gastroesophageal reflux, and benign prostatic hypertrophy.

Lab investigations on admission he had been prescribed:

- Hydrochlorthiazide 25mg o.d.(water pill)
- Digoxin 0.25mg o.d.(for heart)
- Enalapril 5mg o.d.(for heart and BP)
- Metoprolol 25mg bid (for heart and BP)
- Metoclopramide 10 mg tid (for GI)
- Ditropan 5mg bid (for incontinence)
- Glyburide 5mg bid (for diabetes)
- Nitroglycerin 0.3 mg sublingual as needed (for angina)
-Paroxetine 30 mg o.d. (?)

Lab investigations to Emergency reveals:

- WBC=12.1 (4-11.0)
- Hgb=105 (115-160)
- MCV=99 (82-98)
- Plt=120,000(125-350,000)
- Na=130 (135-145)
- K=4.9 (3.5-5.0)
- BUN=12.1 (1.8-8.2)
- Creatinine=125 (40-95)
- Glucose=10.2 (3.9-11.0)
- Urine dip is negative
-B12 =154 (150-600)
-Albumin=28

Mr. Lee is admitted to the general medical unit where you see him as attending staff on Monday, 3 days later. Over the weekend, he displayed nocturnal agitation beginning after supper including shouting out in his sleep, expressing fears that he is being harmed, striking out at nurses during care, picking his fingers in the air, and pulling out his IV twice and his Foley once. He yells out in his native language at times. He is now restrained in bed using a Posey-type of restraint. His ability to cooperate with swallowing his medications is variable.

He had received an average of Haloperidol 4-5mg per day in prn's spread throughout the day, which has not seemed to help. He received a dose of Benztropine with the onset of a tremor. He had also received several doses of Morphine prn. A full MMSE could not be performed due to his distractibility, restlessness, and mild bilateral upper limb tremor, but he is noted to be disoriented to place (thinks he's in China) and time (thinks it is 1948) and unable to recall 3 objects in 1 minute. His BP is now *160/100, PR=110, Temp=38*, and he is mildly flushed and perspiring.

Differential Dx: DIMS-R

DIMS-R (Drugs, Infection, Metabolic, Structural, Retention): Common precipitating factors for delirium

Drugs
- Prescribed (narcotics, steroids, anticholinergic, NSAIDs)
- Over-the-counter (dimenhydrinate, diphenhydramine)
- Drug intoxication or withdrawal (alcohol, sedative-hypnotics, narcotics

Infection (urinary tract, lungs, skin, blood)

Metabolic disturbances
- Fluid (dehydration, hypovolemia)
- Electrolyte (sodium, potassium, magnesium)
- Nutrition (malnutrition, thiamine deficiency, anemia)

Structural insults
- Cardiovascular (angina, infarction, congestive heart failure)
- Central nervous system (stroke or ischemia, concussion)
- Pulmonary (hypoxia [e.g., COPD exacerbation])
- Gastrointestinal (bleeding with anemia, *C. difficile,* colitis)

Retention problems (urinary retention, constipation)

- Practical Tip #1:

Check for urinary retention with a bladder scanner

Medications which may cause or worsen delirium in the elderly patient

Analgesics	Antihistamines	Anti-Nauseants	Anti-Parkinsons	Anti-Seizure	Cardiovascular
Narcotics: •Codeine •Meperidine •Oxycodone •Morphine	• Chlorpheniramine • Diphenhydramine (Benadryl®) • Hydroxyzine	• Scopolamine • Dimenhydrinate (Gravol®)	• Amantadine • Benztropine • Trihexyphenidyl • Procyclidine • Levo-dopa • Bromocriptine	• Phenobarbital • Phenytoin	• Beta-blockers • Digoxin
Gastrointestinal	**Genitourinary**	**Psychiatric**	**Pulmonary**	**Sedatives**	**Other**
• Cimetidine	• Dicyclomine • Hyoscyamine • Oxybutynin • Tolterodine	**Some Tricyclic anti-depressants (TCA)** •Amitryptiline •Doxepin •Clomipramine •Imipramine **Older anti-psychotics** •Chlorpromazine •Thioridazine **Other:** •Lithium	• Theophylline	• Barbituates • Chloral Hydrate **Benzodiazepines** • Diazepam • Lorazepam • Oxazepam • Triazolam • Alprazolam • Clonazepam	• Alcohol • Steroids • Warfarin • B-lactam and quinolone antibiotics • NSAIDs

Reducing the Medication Load

Discontinuing/substituting anticholinergic medications

- Diphenhydramine (Benadryl), Dimenhydrinate (Gravol), Hydroxyzine (Atarax)
- Benztropine (Cogentin), etc.
- Oxybutynin (Ditropan)
- Avoid Amitriptyline (Elavil), Nortriptyline better tolerated

Avoid the use of Cimetidine (Tagamet) in the elderly

Monitoring the effects of Steroids (Prednisone equivalent ≥40mg/d)

- Fardet Am J. Psych 2012

Monitoring the effects of Quinolones, esp. Ciprofloxacin

Switching Narcotics to:

- Hydromorphone (Dilaudid)
- Oxycodone
- Fentanyl (chronic pain)

Avoid Meperidine=Demerol, Watch for Drug Interactions (eg: Paroxetine)

Geriatric Delirium

Predisposing

Precipitating

Perpetuating

Protective/Preventive

Predisposing Factors

Inouye, SK et al. A predictive model for delirium in hospitalized elderly medical patients based on admission characteristics. Ann Intern Med 1993; 119:474-481

- cognitive impairment
- sleep deprivation
- immobility
- visual impairment
- hearing impairment
- dehydration

Precipitating Factors in Hospital

Inouye and Charpentier, JAMA 1996; 275: 852-57

Physical restraints (RR=4.4)

Malnutrition (RR=4.0)

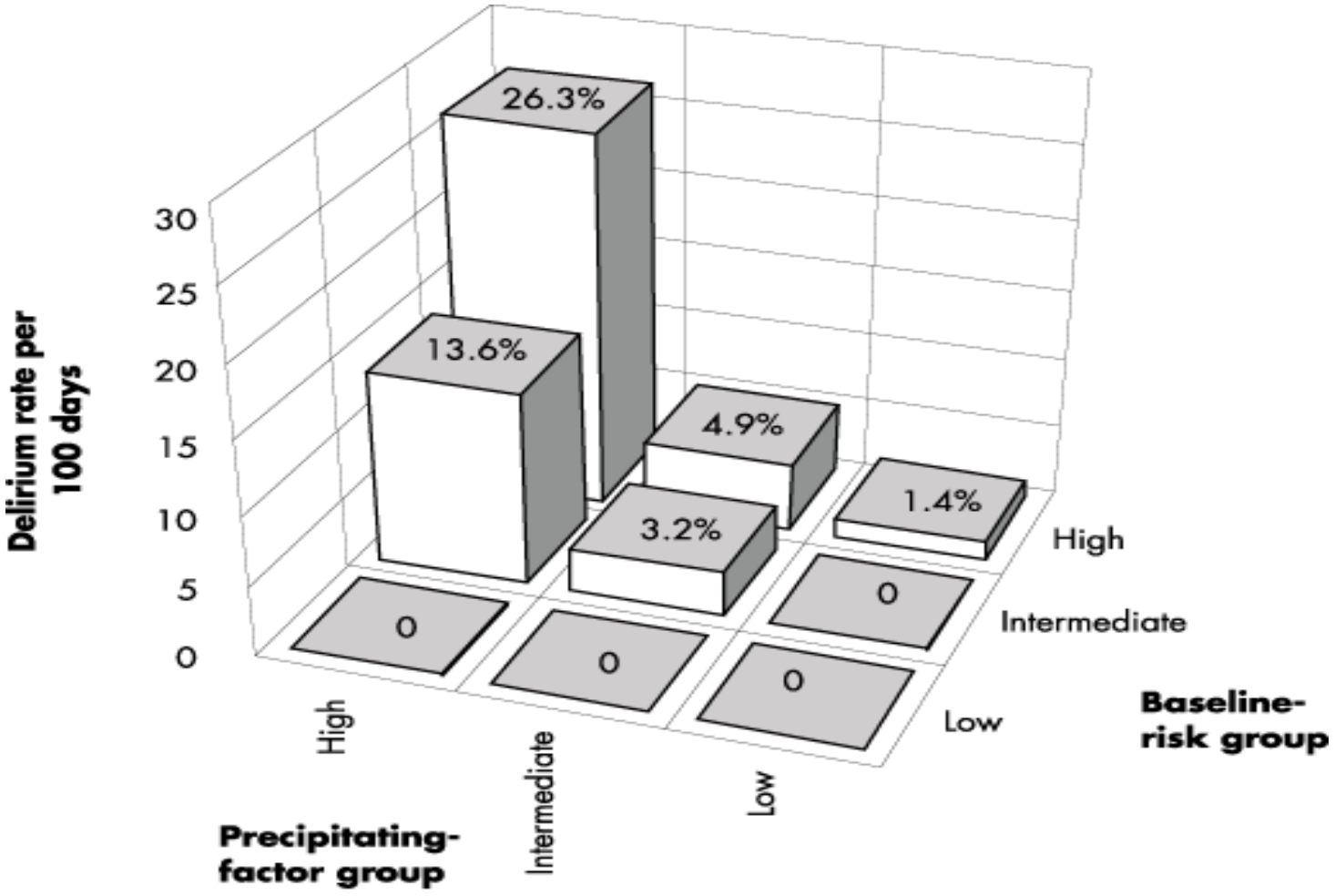
More than 3 medications added (RR=2.9)

Use of bladder catheter (RR=2.4)

Any iatrogenic event (RR=1.9)

Risk Stratification and Delirium

Pompei JAGS 1994



Physical Restraints in the Medically Ill Elderly

Pitfall #1: Restraints are necessary to prevent morbidity such as falls, and help with delirious pts.

- Physical restraints increase risk of *developing* delirium by 4.4x
  Precipitating Factors in Hospital-Acquired Delirium, Inouye and Charpentier, JAMA 1996; 275: 852-57

- Additional morbidities (eg: pneumonia, DVT, stasis ulcers) and mortality risk

- Avoid limb or posey restraints in the frail elderly

General considerations: Diagnosing Geriatric Delirium

24 hr. observation, including sleep-wake cycle

anxiety

new incontinence

unsteady gait, falls

dysarthria/incoherence

mood/affect lability

subtle paranoia and hypervigilance

sleep disturbance

Practical tip #2: Ask specifically about vivid dreams or nightmares

Pharmacological Management of Delirium

"Haloperidol as treatment of choice"

- APA Guidelines 1999

Other conventional antipsychotics

- Loxapine (Loxapac)
- Chlorpromazine
- Methotrimeprazine (Nozinan)
- Perphenazine

Atypical antipsychotics

- Risperidone, Olanzapine, Quetiapine

Haloperidol in Delirium Management

Comparator to atypicals (3 RCT's in Cochrane)

Prolonged QTc, especially I.V.– baseline ECG

Risk of Extrapyramidal Symptoms, esp. elderly
>4.5 mg/day in Cochrane Review

Pitfall #2: Haloperidol is best treatment as best evidence

CPG's: Delirium Management

Country	Year	Antipsychotic Recommendations
Canada (Geriatric Delirium)	2006, 2014	Haldol; alternative Risperidone, Olanzapine, Quetiapine
Australia	2006	Haldol, Olanzapine, Risperidone
NICE (UK)	2010	Haldol, Olanzapine
United States	1999	Haldol

Antipsychotic	RCT's number of patients (pooled, 2010)
Haldol	210
Chlorpromazine	13
Risperidone	47
Olanzapine	102
Quetiapine	36
Aripiprazole	21
Ziprasidone	30

WWW.CCSMH.CA

To promote seniors mental health by connecting people, ideas and resources.

Promouvoir la santé mentale des personnes âgées en reliant les personnes, les idées et les ressources

CCSMH

Canadian Coalition for Seniors Mental Health

English
Welcome

CCSMPA

Coalition Canadienne Pour la Santé Mentale des Personnes Âgées

Français
Bienvenue

Pharmacologic Management

We recommend…

Antipsychotics are the treatment of choice to manage the symptoms of delirium (with the exception of alcohol or benzodiazepine withdrawal delirium). (B)

In older persons with a delirium where pharmacotherapy is indicated, low dose, short-term therapy with haloperidol or an atypical antipsychotic (eg: olanzapine, quetiapine, risperidone) can be considered.

Benztropine should not be used prophylactically with haloperidol in the treatment of delirium. (D)

Pharmacologic Management

We recommend…

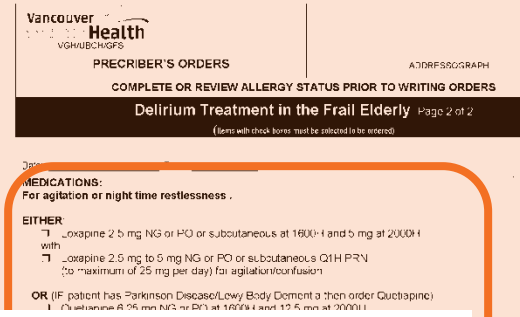
In older persons with delirium who also have Parkinson's Disease or Lewy Body Dementia, atypical antipsychotics are preferred over typical antipsychotics. (D)

Sedative-hypnotic agents are recommended as the primary agents for managing alcohol withdrawal delirium (B). Their use in other forms of delirium should be avoided (D).

Antipsychotics for Geriatric Delirium

from: Chan, BC Med J. Oct 2011

Medication	Trade Name	Category	Starting Dose (mg)	Usual Dose Range (mg)	Routes of Administration
Loxapine	Loxapac	Conventional	5-15	5-100	IM, SC, PO
Methotrimeprazine	Nozinan	Conventional	2.5-10	2.5-100	IV, IM, SC, PO
Chlorpromazine	Largactil	Conventional	6.25-12.5	2.5-100	IM, SC, PO
Perphenazine	Trilafon	Conventional	1-2	2-16	IV, IM, PO
Haloperidol	Haldol	Conventional	0.5-1.0	0.5-5	IV, IM, SC, PO
Risperidone	Risperdal	Atypical	0.5-1.0	0.25-3	PO liq/tabs, SL
Olanzapine	Zyprexa	Atypical	1.25-5	2.5-15	PO, SL, IM
Quetiapine	Seroquel	Atypical	12.5-50	12.5-200	PO (IR, XR)


Vancouver Health
VGH/UBCH/GFS
PRECRIBER'S ORDERS
ADDRESSOGRAPH
COMPLETE OR REVIEW ALLERGY STATUS PRIOR TO WRITING ORDERS
Delirium Treatment in the Frail Elderly Page 2 of 2
(Items with check boxes must be selected to be ordered)

PPO: Pg 2

MEDICATIONS:
For agitation or night time restlessness .

EITHER:

- ❒ Loxapine 2.5 mg NG or PO or subcutaneous at 1600H and 5 mg at 2000H.

with

- ❒ Loxapine 2.5 mg to 5 mg NG or PO or subcutaneous Q1H PRN (to maximum of 25 mg per day) for agitation/confusion

OR (IF patient has Parkinson Disease/Lewy Body Dementia then order Quetiapine).

- ❒ Quetiapine 6.25 mg NG or PO at 1600H and 12.5 mg at 2000H.

with

- ❒ Quetiapine 6.25 mg to 12.5 mg NG or PO Q2H PRN (to maximum of 50 mg per day) for agitation/confusion

If unable to give Quetiapine NG or PO then:

- ❒ Methotrimeprazine (Nozinan®) 2.5 mg subcutaneous at 1600H and 5 mg at 2000H

with

- ❒ Methotrimeprazine (Nozinan®) 2.5 mg to 5 mg subcutaneous Q1H PRN (to maximum of 25 mg per day).

Pharmacologic Management: Guidelines

➢Frequency:

- Regular vs. Prn; nighttime dosing vs split evening/hs dosing

➢Routes: PO (tabs, sl, liquid) vs. SC vs. IM vs. IV

➢Dosages:

- haloperidol 0.25-0.5 bid
- risperidone initiated at 0.25 mg od-bid
- olanzapine at 1.25-2.5 mg per day
- quetiapine at 12.5-50 mg per day

Subsequent Considerations

Risks of Atypical Antipsychotics

- "Black Box" Warning: Mortality, CVA or related events
- Metabolic syndrome (less likely if short duration)
- Prolonged QTc

Use of Cholinesterase Inhibitors?—may be hazardous in critically ill (van Eijk, Lancet 2010)

Treatment of Hypoactive Delirium: Stimulants?

- Black box warning
- CCSMH Guidelines: None recommended

Melatonin?

Alcohol Withdrawal Syndrome (AWS) in Hospitalized Medically Ill

Prevalence in hospitalized medically ill from 20-40% (Maldonado 2014)

Concurrent Delirium due to general med condition common, obscuring or confounding AWS

CIWA-Ar (severity scale) PPO used on VGH CTU Med Units since 2007 (In 2010: age-based PPOs):

- Shown to reduce benzo's given (Ng, Can J Hosp Pharm, 2011; Taheri, J. Am Geri Soc, 2015)
- Symptoms and signs of AWS have overlap with features of Delirium as captured on CIWA-Ar
- Not validated in acutely medically ill
- Research and QI projects have identified the inappropriate application of CIWA-Ar in a substantial number of patients = potential overuse of benzodiazepines

PAWSS = *Prediction of (risk of) Alcohol Withdrawal Severity Scale*

(Maldonaldo 2014, 2015; Wood et al. JAMA 2018)—validated in medically ill inpatients

Nausea/Vomiting – Score on scale of 0 to 7
0 – None
1 – Mild nausea with no vomiting
2
3
4 – Intermittent nausea
5
6
7 – Constant nausea and frequent dry heaves and vomiting

Tremor – With extended arms and spread fingers, score on scale of 0 to 7
0 – No tremor
1 – Not visible, but can be felt fingertip to fingertip
2
3
4 – Moderate, with patient's arms extended
5
6
7 – Severe, even with arms not extended

Anxiety – Score on scale of 0 to 7
0 – No anxiety, patient at ease
1 – Mildly anxious
2
3
4 – Moderately anxious or guarded, so anxiety is inferred
5
6
7 – Equivalent to acute panic states seen in severe delirium or acute schizophrenic reactions

Agitation – Score on scale of 0 to 7
0 – Normal activity
1 – Somewhat more than normal activity
2
3
4 – Moderately fidgety and restless
5
6
7 – Paces back and forth, or constantly thrashes about

Sweating – Score on scale of 0 to 7
0 – No sweats
1 – Barely perceptible sweating, palms moist
2
3
4 – Beads of sweat obvious on forehead
5
6
7 – Drenching sweats

Orientation and Clouding of Sensorium – Ask, "What day is this? Where are you? Who am I?" Score on scale of 0 to 4
0 – Oriented
0 – No sweats
1 – Cannot do serial additions or is uncertain about date
2 – Disoriented to date by no more than 2 calendar days
3 – Disoriented to date by more than 2 calendar days
4 – Disoriented to place and/or person

Tactile Disturbances – Ask, "Have you experienced any itching, pins-and-needles sensations, burning or numbness, or a feeling of bugs crawling on or under your skin?"
0 – None
1 – Very mild itching, pins and needles, burning or numbness
2 – Mild itching, pins and needles, burning or numbness
3 – Moderate itching, pins and needles, burning or numbness
4 – Moderate hallucinations
5 – Severe hallucinations
6 – Extremely severe hallucinations
7 – Continuous hallucinations

Auditory Disturbances – Ask, "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Do you hear anything that disturbs you or that you know isn't there?"
0 – Not present
1 – Very mild harshness or ability to frighten
2 – Mild harshness or ability to frighten
3 – Moderate harshness or ability to frighten
4 – Moderate hallucinations
5 – Severe hallucinations
6 – Extremely severe hallucinations
7 – Continuous hallucinations

Visual Disturbances – Ask, "Does the light appear to be too bright? Is its color different than normal? Does it hurt your eyes? Are you seeing anything that disturbs you or that you know isn't there?"
0 – Not present
1 – Very mild sensitivity
2 – Mild sensitivity
3 – Moderate sensitivity
4 – Moderate hallucinations
5 – Severe hallucinations
6 – Extremely severe hallucinations
7 – Continuous hallucinations

Headache – Ask, "Does your head feel different than usual? Does it feel like there is a band around your head?" Do not rate dizziness or lightheadedness
0 – Not present
1 – Very mild
2 – Mild
3 – Moderate
4 – Moderately severe
5 – Severe
6 – Very severe
7 – Extremely severe

CIWA-Ar

Nausea
Anxiety
Sweating
Tremor
Agitation
Orientation
Headache

Auditory

Tactile
Visual

PAWSS-CIWA Protocol at VGH

Protocol differs for:

- Age 69 and under vs. Age 70 and over
- In “older”:
  - *no diazepam*
  - *lower lorazepam doses*
  - *use of CAM to screen for concurrent delirium*

Practical tip #3: Ask about alcohol and hypnotic use. Frail, medically ill seniors usually don’t drink as much as reported, but can take more hypnotics than reported.

CIWA in Older Adults

Physician to reassess for regular dosing on a daily basis

Nurse to screen for delirium using Confusion Assessment Method (CAM) and to call physician if CAM screen is positive.

Nurse to call physician if CIWA≥20 or Lorzapam≥10mg/24hrs or seizure or HR>120 or SBP>180 or DBP>120

If CIWA-Ar score 0 to 9, call MD to have regular benzodiazepine dose tapered.

Lorazepam 0.5 to 1 mg PO or SL or IM or SUBCUT Q1H PRN

CIWA-Ar Score	Lorazepam PRN	Re-assess
0 to 9	No Medication	Q1H x 3, then Q6H x 24 hours, then Q24H x 72 hrs
10 to 19	0.5 or 1 mg	Q1H PRN Q1H until score below 10
20 or greater	Call Physician	Q30 to 45 MIN until score below 20

St

Step 1

Prediction of Alcohol Withdrawal Severity Scale (PAWSS)

Maldonado et al, 2015

Part A: Threshold Criteria: ("Y" or "N", no point)

Have you consumed any amount of alcohol (i.e., been drinking) within the last 30 days? OR did the patient have a "+" BAL on admission? _____

IF the answer to either is YES, proceed with test:

- If yes, administer the rest of the score.
- If no, stop. The patient is low risk.

Step 2

Part B: Based on patient interview: (1 point each)

1. Have you been recently intoxicated/drunk, within the last 30 days? _____
2. Have you ever undergone alcohol use disorder rehabilitation treatment or treatment for alcoholism? (i.e., in-patient or out-patient treatment programs or AA attendance) _____
3. Have you ever experienced any previous episodes of alcohol withdrawal, regardless of severity? _____
4. Have you ever experienced blackouts? _____
5. Have you ever experienced alcohol withdrawal seizures? _____
6. Have you ever experienced delirium tremens or DT's? _____
7. Have you combined alcohol with other "downers" like benzodiazepines or barbiturates, during the last 90 days? _____
8. Have you combined alcohol with any other substance of abuse, during the last 90 days? _____

43 mmol/L

Part C: Based on clinical evidence: (1 point each)

9. Was the patient's blood alcohol level (BAL) on presentation ≥ 200? _____
10. Is there evidence of increased autonomic activity? (e.g., HR > 120 bpm, tremor, sweating, agitation, nausea) _____

Total Score: _____

Score is included on new PPO

Step 3

A score of **4 or more** predicts high risk of moderate to severe alcohol withdrawal

Alcohol Withdrawal Delirium

Is there a prophylactic role of:

Magnesium?

Anticonvulsants such as Valproic or Gabapentin?

– no good evidence (Montgomery et al. Can Geriatr J. 2022)

Combination benzodiazepines and antipsychotics if concurrent alcohol withdrawal and Delirium secondary to GMC's

Prognosis of Geriatric Delirium

Witlox, Meta-analysis, JAMA July 28, 2010

Increased mortality in hospital and up to 2 year post-delirium

(Leslie et 2005, McCusker 2003, McAvay 2006)

Increased morbidity: LOS, functional decline, institutional care (Leentjens 2005, Rockwood 2001, McCusker 2003, McAvay 2006)

More cognitive deficits: Up to 30-60% at 1 month (Levkoff 1992, Rockwood 1993, McCusker 2003, Marcantonio 2003); Lingering impairment at 6 months post-cardiac surgery (Saczynski, NEJM July 5, 2012)

Those with Dementia and Delirium are less likely to achieve pre-Delirium cognitive and functional baseline status (McCusker 2001) and have a longer course of delirium (Dasgupta 2010, Boettger 2011)

Pitfall #3: Delirium is reversed quickly once physical factors addressed

Prognosis of Geriatric Delirium

Increased risk of developing Dementia? (Rockwood 1999)

Witlox, Meta-analysis, JAMA July 28, 2010

- Odds Ratio=12.52 (1.86-84.21), mean follow-up= 4 yrs
- Bickel *Dement Geriatr Cogn Disord. 2008;*26(1):26-31. Lundström *J Am Geriatr Soc. 2003;51(7):1002-1006.*

Krogseth, Dement Geriatr Cogn Disord. 2011

- Odds Ratio=10.5 (1.6-76.3), follow-up= 6 months

Davis, Vantaa 85+, Brain, August 9, 2012

- Cohort of 553 seniors, aged 85 or over, Vantaa, Finland
- Odds Ratio=8.7 (2.1-35), followed up to 10 years.
- Delirium was associated with worsening Dementia severity

Prognosis

Independent risk factor to mortality and morbidity in and after hospitalization

Persistent cognitive and functional deficits common in geriatric delirium

General anesthesia, independent of delirium, may lead to lingering cognitive impairments (Postoperative Cognitive Dysfunction=POCD)

- Mason J. Alz Dis 2010
- Deiner Br. J. Anaes 2009

The continuum between delirium and dementia....

Protective/Prevention

Flaherty Med Clin North Am 2011

Non-Pharmacological Mult-Component, Often Interdisciplinary-based, Prevention or Management Measures (eg: HELP)

Antipsychotics?

Melatonin?

Proactive Geriatric consultation for hip fractures

Prevention

Inouye, SK et al. A multicomponent intervention to prevent delirium in hospitalized older patients. N Engl J Med 1999; 340: 669-676

850 elderly patients, intervention (target 6 predisposing factors) vs. usual care group

Incidence of delirium developed in 9.9% of the intervention group compared to 15% of the usual care group (OR 0.6, CI95 0.39 – 0.92)

The days of delirium and number of episodes were also reduced in the intervention group

However, the severity and recurrence rate was not reduced in comparison to the control group.

Pearls and Pitfalls

PRACTICAL TIPS

- Check for urinary retention with a bladder scanner
- Ask specifically about vivid dreams or nightmares
- Ask about alcohol and hypnotic use. Frail, medically ill seniors usually don't drink as much as reported, but can take more hypnotics than reported.

PITFALLS

- Restraints are necessary to prevent morbidity such as falls, and help with delirious pts.
- Haloperidol is best treatment as best evidence
- Delirium is reversed quickly once physical factors addressed