Distinguishing the 3 Ds (Delirium, Dementia, Depression)

A Carlat Webinar

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Conflicts and Disclosures

None

Learning Objectives

After the webinar, you should be able to:

1. Recognize the importance of distinguishing the 3 Ds of geriatric psychiatry
2. Identify the clinical criteria of delirium and understand its variable presentation in older adults
3. Differentiate between delirium superimposed on dementia and dementia-only
4. Understand treatment modalities for delirium, dementia, and depression in older adults

Case Study

- Ms. B is an 80-year-old retired microbiologist with generalized anxiety disorder, mild neurocognitive disorder, history of stroke, and recent COVID-19 pneumonia.
- She reports new memory concerns, two minor car accidents, difficulty initiating activities, and insomnia.
- You wonder whether this is delirium, dementia, or depression—or whether these are just lingering effects from COVID-19 infection.
- How can you narrow down her diagnosis?

Introduction: 3 Ds: Delirium, Depression, Dementia

- Delirium is often missed; misdiagnosed as depression or dementia
- Delirium can be superimposed on dementia
- Depression is one of the most common affective symptoms of dementia
- Dementia syndrome of depression: cognitive changes in depression are mistaken for dementia
- Look at onset, duration, course, orientation, and attention

Hope C et al, BMC Res Notes 2014;7:208; Nagar A et al, Focus (Am Psychiatr Publ) 2021;19(3):308-310; Nowrangi MA et al, Alzheimers Res Ther 2015;7(1):12

Comparing the 3 Ds

	Delirium	**Dementia**	**Depression**
Onset	Hours to days	Months to years	Weeks to months
Course	Often reversible with treatment	Progressive, fatal	Chronic; responds to treatment
Duration	Usually <1 month	Years to decades	Months, can be chronic
Orientation	Impaired; confused	Intact when mild; lose orientation to time, then place, then person	Intact
Attention	Impaired	Intact in early stages	Intact
Consciousness	Impaired: can be hypoactive or hyperactive	Normal	Normal

Gagliardi JP, Virtual Mentor. 2008;10(6):383-388

Psychosis in the 3 Ds

- Delirium: simple, related to environment (misperceptions and illusions)
- Dementia: hallucinations (usually visual), delusions, delusional misidentification
- Depression: complex, mood-congruent, themes of guilt or nihilism

O'Sullivan R et al, Lancet Psychiatry 2014;1(4):303-311

Delirium prevalence

Delirium

- Outside of institutions: likely <2%
- 4-38% in nursing homes
- 1/3 of hospitalized medical patients >70 years

Inouye SK et al, Lancet 2014;383(9920):911-922; Marcantonio ER, N Engl J Med 2017;377(15):1456-1466; Wilson JE et al, Nat Rev Dis Primers 2020;6(1):90

Delirium risk factors

Delirium

- Increased age
- **Cognitive impairment**
- Frailty
- Comorbidities
- **Psychiatric illness**
- Visual and hearing impairment
- Acute medical illness
- Trauma
- Surgery
- Drug/medication use or withdrawal

Inouye SK et al, Lancet 2014;383(9920):911-922; Marcantonio ER, N Engl J Med 2017;377(15):1456-1466; Wilson JE et al, Nat Rev Dis Primers 2020;6(1):90

Challenges in delirium diagnosis

Delirium

- Confusion: due to delirium, dementia, or both?
- Safest to assume delirium
- Depression and dementia can co-occur with delirium
- Hypoactive delirium looks like depression

Marcantonio ER, 2017

Diagnosing delirium

Delirium

- Importance of early detection
- Clinical assessment tools (eg, Confusion Assessment Method)
- Acute change from baseline or resolution of symptoms with treatment

Look for:

Confusion
Inattention
Fluctuating symptoms
Altered consciousness

Fong TG and Inouye SK, Nat Rev Neurol 2022;18(10):579-596

Treatment of delirium

- Antipsychotics, melatonin, and cholinesterase inhibitors are not effective
- Exception: Antipsychotics if safety risk
- Treat/prevent delirium with nonpharmacological interventions assessment tools
- Target these risk factors
  - Immobility
  - Functional decline
  - Visual/hearing impairment
  - Sleep deprivation

Oh ES et al, JAMA 2017;318(12):1161-1174

Understanding dementia

Dementia

- Definition and subtypes
- Progressive decline in cognitive function
- Diagnostic criteria and tools
- Delirium is strong risk factor for incident dementia
  - Potentially *modifiable* risk factor
- Dose-response between delirium and dementia: suggests causal link
  - Each episode of delirium increases dementia risk by 20%

Gordon EH et al, BMJ 2024;384:e077634 Lancet 2020;396(10248):413-446

Treatment strategies for dementia

- Primary prevention: Lifestyle
  - 40% of dementia risk is attributable to 12 modifiable risk factors
    - Less education, hypertension, hearing impairment, smoking, obesity, **depression**, physical inactivity, diabetes, low social contact, alcohol consumption, TBI, air pollution
- Secondary prevention: Anti-amyloid mAbs (disease-modifying treatments)
- Tertiary prevention: symptomatic treatment

Livingston G et al, Lancet 2020;396(10248):413-446; van der Flier WM et al, Nat Aging 2023;3(5):494-505

Late-Life Depression (LLD)

- Diurnal mood fluctuation
- Depression is a risk factor for dementia ←→ Dementia might cause LLD
- Part of dementia prodrome
- Dementia syndrome of depression (DSD)
  - Memory loss
  - Attention deficits
  - Initiation problems
  - Word-finding difficulties

Nadar et al, 2021

Treating Late-Life Depression

- Can lower the risk of dementia for certain patients
- Non-drug interventions are more efficacious in people with dementia
- Social prescribing: non-drug interventions and multidisciplinary approaches
  - Reminiscence therapy
  - Exercise
  - Animal therapy
  - Massage and touch therapy
- Medications in depression with comorbid dementia
  - Antidepressants
  - Antipsychotics
  - Cholinesterase inhibitors

Watt JA et al, BMJ. 2021;372:n532; Yang L et al, Biol Psychiatry. 2023;93(9):802-809

Non-pharmacological management of the 3Ds

- Treat reversible causes
- Monitor for safety risks
- Provide supportive care
- Communicate empathically
- Manage behavioral challenges
- Manage the environment

Interior Health. Clinical Practice Recommendations. 2006 August, https://www.interiorhealth.ca/sites/default/files/PDFS/whendepressiondeliriumanddementiacoexist.pdf

Medication principles

- Reserve medications for distress due to agitation or psychosis
- Don’t use meds to control wandering
- Aim for monotherapy, lowest effective dose, and taper as soon as possible
- If prns are regularly required, schedule them instead
- Insomnia or agitation at night: move dosing to qhs

Thinking Through the 3 Ds in Ms. B

1. Rule out delirium
   - Lab tests and basic medical workup unrevealing
   - Attention testing intact
2. Assess for progression of her neurocognitive disorder
   - MoCA score stable 24/30 (compared to 25/30 last year)
   - Assess for changes in iADLs
   - Collateral
3. Depression
   - Geriatric Depression Scale (positive screen: 10/15)
   - SIGECAPS: Denies depression or suicidality but reports anhedonia, guilt, poor sleep and appetite, low energy, concentration problems, and difficulty initiating activities

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Diagnosis: Dementia syndrome of depression

Carlat Take

- Timing and duration of symptoms can help differentiate between delirium, depression, and dementia
- Comorbidity is common: delirium may be superimposed on dementia
- Assess for underlying medical comorbidities
- Regularly monitor cognition in dementia, delirium, and depression