Dementia in Primary Care

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Disclosures

- No financial disclosures
- Slides were not created by ChatGPT!

Learning Objectives

- Characterize dementia
- Differentiate between dementia and MCI
- Discuss management of dementia in primary care settings

Challenges: in numbers

- Most common cause Alzheimer's affects 6-8% of people over age of 65[1]
- 6.7 million Americans over 65 are living with Alzheimer's in 2023[2]
- In Illinois
  - 2.7 million adults over the age of 60 in Illinois (21.9% of the current population)
  - Percentage of adults over 60 in Illinois is expected to grow from 17.4% (2012) to 22.3% (2030)[3]
  - Currently, there are 4,545 Family Physicians and 227 geriatricians in Illinois (~ 1 geriatrician for 10k)[4]

Dementia vs. Neurocognitive Disorder

- DSM IV to DSM5 change in language: Dementia to neurocognitive disorder (major and mild)
- Term "dementia" is retained for "dementias that affect older adults"
- NCD also used for impairment due to traumatic brain injuries, HIV, amnestic disorder etc.
- Diagnosis can be made with decline in only one domain of cognition as opposed to 2 or more domains in DSM IV

Major Neurocognitive Disorder Diagnosis

A. Significant cognitive decline from baseline in 1 or more cognitive domains
   Self reported, informant, neuropsych or quantified clinical assessment
B. Interfere with instrumental activities of daily living (IADL)
C. No delirium
D. Not better appreciated by another mental disorder (MDD, schizophrenia)

Specify cause

Specify presence of absence of behavioral disturbance

Mild Neurocognitive Disorder Diagnosis

A. Modest decline in >/=1 cognitive domains
B. Do not interfere with IADL
C. No delirium
D. Not explained by another mental disorder (MDD, schizophrenia)

Specify cause

Specify presence of absence of behavioral disturbance

Working Definition

Many definitions based on subspecialities

"Chronic acquired decline in one or more cognitive domains sufficient to affect daily life."[5]

Neurocognitive domains (DSM-5)

- Complex attention
  - Sustained/Divided/Selective attention, processing speed
- Executive function
  - Planning, decision making, working memory, response to feedback etc.
- Learning and memory
  - Immediate, recent and long-term memory including semantics
- Language
  - Naming, word finding, fluency, grammar, syntax
- Perceptual-motor
  - Visual perception, construction, motor, praxis, gnosis
- Social Cognition
  - Emotions (ability to recognize), insensitivity to social standards

Activities of Daily Living (ADLs)

Basic ADL
- Bathing
- Dressing
- Toileting
- Transferring
- Feeding
- Continence

Instrumental ADL
- Ability to use telephone
- Shopping
- Food preparation
- Housekeeping
- Laundry
- Transportation
- Medication management
- Handling finances

Causes (per DSM-5)

- Alzheimer's disease
- Frontotemporal
- Lewy body disease
- Vascular disease
- Traumatic brain injury
- Substance/medication use
- HIV infection
- Prion disease
- Parkinson's disease
- Huntington's disease
- Another medical condition
- Multiple etiologies
- Unspecified etiology

Diagnosis

- Screening
- Symptoms
- History/Physical Exam
- Clinical tools
- Labs
- Imaging
- Others

Screening

Grade I

The United States Preventive Service Task Force (USPSTF) concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for cognitive impairment in older adults [6]

Diagnosis: Concerning Symptoms

- Short term memory loss
  - recent memory lost more than remote memories, **misplacing objects**
- Difficulty with language
  - e.g.: **word finding difficulties**, difficulty with names
- Executive dysfunction
  - e.g.: paying bills, multitasking, **following multistep process** while cooking, home repairs
- Visuo-spatial difficulties
  - e.g.: getting lost, wandering
- Changes in behavior, personality
  - e.g.: more reserved, agitated
- Hallucinations/Delusions

Diagnosis: History and Physical Exam

- Family history of dementia, Parkinson's disease, vasculopathy
- Cardiovascular risk factors: smoking, HTN, DM, HLD, CVA/TIA/MI, Afib
- R/o Psychiatric issues: Depression/Anxiety
- R/o Sleep issues: OSA, Insomnia
- Sensory deficits (e.g.: hearing, vision issues)
- Exam findings: tremor, bradykinesia, hemiplegia, hallucinations

Diagnosis: Clinical tools

- MiniCog (short)
- Folstein's Mini Mental Status Exam
- Montreal Cognitive Assessment (MoCA)
- Saint Louis University Mental Status (SLUMS)
- Rowland Universal Dementia Assessment Scale (RUDAS)

Diagnosis: Clinical tools

- **MMSE:**
  - **Copyright since 2001**
  - **Registration and purchase:(~$74 for 50 forms), test manual ($86)** [7, 8]
- **MoCA**
  - **Requires training/certification starting 2021**
  - **The training costs $125 (for 2 years), requires renewal thereafter.**[8]
  - **Some versions free to use for select providers**[9]
- **SLUMS: Free**

Diagnosis: Clinical evaluations and Labs

- Clinical evaluations
  - Depression and anxiety assessment (PHQ-9, GAD-7)
  - Rule out delirium (recent hospitalization, CAM assessment)
- Basic labs
  - CBC (r/o anemia)
  - CMP (r/o hyponatremia, liver and kidney diseases)
  - Deficiencies: Vitamin B12, Folate, TSH
  - Lipid profile, A1c (to assess for vascular risk factors)

Diagnosis: Investigations

- Head imaging: MRI brain w/o contrast or CT head
  - Rule out normal pressure hydrocephalus, subdural hematoma, masses
  - Characterize Frontotemporal dementia, vascular dementia, Alzheimer
- PET Scans
  - Society of Nuclear Medicine and Molecular Imaging (SNMMI) recommends **against using PET imaging** "unless the patient has been assessed by a specialist in this field" [10]
  - Concerns: cost, radiation risk, overlapping patterns, utility of positive value
  - PET/FDG-PET generally not covered by insurance
  - Coverage under new monoclonal antibody therapies (?)

Other tests

- Sleep study if sleep apnea suspected (High STOP-BANG score)
- EKG if tachycardia (r/o Afib, A flutter)
- APOE gene testing
  - Choosing Wisely: Don't order APOE genetic testing as a predictive test for Alzheimer's disease (American College of Medical Genetics and Genomics)
  - APOE is a susceptibility gene for later-onset Alzheimer disease.
  - AAN does not recommend APO E for suspected dementia
  - "Presence of an E4 allele is neither necessary nor sufficient to cause AD"[11]
- CSF amyloid, tau biomarkers: Neurology referral (coverage, nuance in interpretation)

Staging

- Functional Assessment Staging Tool (FAST)
- Stages 1-7, with gradual worsening in each stage
- Stage 1: Normal, Stage 2: Possible MCI (subjective difficulties), Stage 3: MCI (objective decline), Stage 4: Mild Dementia (ADLs involved), Stage 5: Moderate Dementia (help with attire), Stage 6: Moderately Severe(help with BADLs), Stage 7: Severe Dementia (speaks 4-5 words, cannot walk, sit up)

Management in primary care

- General
- Cognitive issues
- Behavioral issues
- Nutrition
- Other issues

Management: General

- Diet (MIND, Mediterranean, DASH)
- Exercise
- Stop smoking
- Limit CV risk factors (blood pressure, glucose, lipids)
- Hearing loss screening
- Prevent social isolation
- Sleep hygiene

Management: Cognitive

- Cholinesterase inhibitors
  - Donepezil (Aricept), Rivastigmine (Exelon), Galantamine (Razadine)
  - Slow the progression of disease
  - S/E: nausea, vomiting, diarrhea, orthostatic hypotension, bradycardia
  - Periodic assessment for perceived cognitive benefits and adverse GI effects
- NMDA antagonist
  - Memantine
  - S/e: headache, dizziness
- The Society for Post-Acute and Long-Term Care Medicine (PALTC) recommends against routine prescription or continuation of acetyl cholinesterase inhibitors or NMDA antagonists in patients with advanced dementia [12]

Management: Cognitive (Disease modifying)

- Accelerated approval from FDA: Adacanumab
- Full approval from FDA: Lecanemab
- Accelerated approval:
  - drugs for **serious** conditions where there is an **unmet medical need** and
  - a drug is shown to have an effect on a **surrogate endpoint** that is reasonably **likely to predict** a clinical benefit to patients" [14]
  - Clinical Dementia Rating (CDR) used in this case

Management: Cognitive (Disease modifying)

Adacanumab: Controversial [13], currently approved for MCI and mild AD

Lecanemab: Approved for MCI and mild AD

- Proof of amyloid disease: PET scan, lumbar puncture needed
- Infusion and follow up with either PET scan or lumbar puncture required
- Costly, may not be covered
- S/E: vasogenic edema, intracranial microhemorrhages called ARIA (Amyloid Related Imaging Abnormalities)

Management: Behavioral

- Agitation:
  - Psychosocial interventions
  - SSRI: Citalopram found to reduce agitation and caregiver distress [15]
  - Atypical antipsychotics
- Depression/Anxiety: SSRI, SNRI
- Hyperactive sexual behavior: SSRI
- Manic symptoms: Mood stabilizers
- Sleep: Melatonin, trazodone, avoid benzodiazepines

Management: Behavioral

- American Psychiatry Association recommends against regular use of antipsychotics as first choice to treat behavioral and psychological symptoms of dementia [17]
- Atypical antipsychotic use:
  - FDA Black Box warning increased risk of death [16]
  - Discuss risk vs. benefit
  - Obtain informed consent
  - Periodic reassessments.
- Avoid TCA or drugs with high anticholinergic activities e.g. paroxetine

Management: Nutrition

- Assess for malnutrition (e.g.: Mini Nutrition Assessment)
- Advanced dementia: handfeeding as good as tube feedings and associated with less agitation, complications [18]
- Oral assisted feedings recommended by PALTC
- American Academy of Hospice and Palliative Medicine (AAHPM) and The Society of Post-Acute and Long-Term Care Medicine (PALTC) recommend against inserting percutaneous feeding tubes in patients with advanced dementia [19, 20]

Management: Other common issues

- Early stage: Independent living vs Assisted living vs Memory care unit vs Nursing home
- Assess decision making capacity (Communicate, Understand relevant information, appreciate situation/consequences, reason treatment)[21]
- Assign a POA and advance care planning in early stages
- Hospice care in late stages (FAST 7)
- Driving/home safety

Multidisciplinary team

- Primary care provider: Conducts the team
- Neurology: Complicated, undifferentiated diagnoses
- Cardiology/Endocrinology: Reduce CV risk
- Psychiatry/Psychology: Uncontrolled behavioral issues, Neuropsych eval
- Palliative/Hospice: Start early assessment
- Caregiver: Training caregivers, caregiver health
- Dietitian/PT/OT: preventing frailty
- Social worker: Advance care planning

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