Staging and Treatment of Dementia

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Age doesn’t make you forgetful. Having way too many stupid things to remember makes you forgetful.
Objectives

• What are the two most common types of dementias seen in a primary care office
• How are they staged
• What treatments are available

Definition of Neurocognitive Disorder

• Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains — such as complex attention, executive function, learning, memory, language, perceptual-motor or social cognition.
Alzheimer’s Disease

- Alzheimer’s disease is an irreversible, progressive brain disease that slowly destroys memory and thinking skills and, eventually even the ability to carry out the simplest tasks of daily living. (NIA)

Vascular Dementia

- Vascular dementia is a general term describing problems with reasoning, planning, judgment, memory and other thought processes caused by brain damage from impaired blood flow to your brain. (Mayo Clinic)
Age is the biggest risk factor

Alz.org
Not all dementia is Alzheimer’s disease

Case Presentation

- 85 y/o male
- Recently widowed
- Family visiting from out of town
- Spoiled food, unpaid bills, and expired medication
- PMH: HTN and Hyperlipidemia
Memory Test Options

• MMSE
• MOCA
• Mini Cog
• Clock drawing test

Mini Cog

• Say three words and have the patient repeat them
• Clock drawing test (1 point if correct)
• Repeat 3 words (1 point for each recalled word)
• Scoring 0-2 with abnormal CDT = dementia
• Scoring of 1-2 with normal CDT is negative for dementia
• Score of 3 is negative for dementia
Clock Drawing Test

Katz Basic ADLs

- Bathing
- Dressing
- Toileting
- Transfer
- Continence
- Feeding
Lawton-Brody Instrumental ADLs

• Ability to use the telephone
• Shopping
• Food preparation
• Laundry
• Mode of transportation
• Responsibility for own medications
• Management of finances and bills

Lab work and Imaging

• CBC, CMP, TSH, vitamin B12, (RPR)
• CT brain without contrast
• MRI (without contrast) if gait abnormality and/or tremor is present or if vascular cause is a concern
Case Presentation

- Bloodwork negative
- Imaging nondiagnostic
- MMSE: 18
- Clock: 2
- Dependent in all IADLs
- Able to do all his ADLs
CDR Staging

<table>
<thead>
<tr>
<th>CDR dementia</th>
<th>0  No dementia</th>
<th>0.5 MCI</th>
<th>1.0 Mild</th>
<th>2.0 Moderate</th>
<th>3.0 Severe</th>
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</thead>
<tbody>
<tr>
<td>Subjective memory loss</td>
<td>No</td>
<td>+/-</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Measurable memory loss</td>
<td>No</td>
<td>+</td>
<td>++</td>
<td>+++</td>
<td>++++</td>
</tr>
<tr>
<td>IADLS</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>BADLs</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Driving Safely</td>
<td>Yes</td>
<td>&gt;50%</td>
<td>&lt;50%</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Medications</td>
<td>No</td>
<td>No</td>
<td>ChEI</td>
<td>ChEI and NMDA ant</td>
<td>ChEI and NMDA ant</td>
</tr>
</tbody>
</table>

Pharmaceutical Treatment

- Acetylcholinesterase Inhibitors
  - Aricept (donepezil)
  - Exelon (rivastigmine)
  - Razadyne (galatamine)

- NMDA antagonist
  - Namenda (memantine)
# FDA Approved Therapies

<table>
<thead>
<tr>
<th></th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
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<tbody>
<tr>
<td>Donepezil</td>
<td>5-10 mg</td>
<td>5-10 mg</td>
<td>10 mg</td>
</tr>
<tr>
<td>Donepezil (Aricept 23)</td>
<td></td>
<td></td>
<td>23 mg/d</td>
</tr>
<tr>
<td>Galantamine</td>
<td>16-24 mg/d</td>
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<tr>
<td>Rivastigmine*</td>
<td>6(3*)-12 mg/d</td>
<td></td>
<td>4.6/9.5/13.3 patch</td>
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<tr>
<td>Memantine</td>
<td>10-20 mg/d</td>
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</tbody>
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*FDA approved for mild-moderate Parkinson’s Disease related dementia

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**Current paradigm – ChEI drugs**

Have a limited effect on the course of the disease

![Graph showing the comparison of ChEI drugs and no treatment](image)

NMDA antagonist

- More effective when used with ACEI
- May help with agitation

Memantine and Donepezil Combination Therapy

![Graph showing improvement in Severe Impairment Battery and Alzheimer Disease Cooperative Study - Activities of Daily Living Inventory over study weeks with placebo and memantine.](image)
Nonpharmaceutical Treatment

- Memory exercises ("If you don’t use it, you lose it")
- Physical exercise
- Socialization

Memory Exercises

- Reading
- Puzzles
- Educational shows
- Learning a new language
- Learning an instrument
- Brain fit programs?
Exercise and cognition

- Meta-analysis
- Sixteen trials with 937 participants met the inclusion criteria.
- Authors conclusion: exercise programs can have a significant impact in improving ADLs and cognition.
- No effect on depression or challenging behaviors.


Exercise and Cognition

- Can a dementia specific Aquatic exercise program improve behavioral and psychological symptoms in dementia.
- 12 week course and only 10 F and 1 M.
- Improvement was seen in both aspects.

Neville and Henwood, 2014
Exercise and Cognition

- 30 patient study comparing cognition exercises alone or cognition and physical exercise
- 12 week study
- Results showed that the group that participated in both showed improvements in both memory, balance, and quality of life

Yoon, Lee 2013

OMT and Dementia

- Can craniosacral still point technique decrease agitation
- Cohen Mansfield Agitation Inventory was used to assess agitation
- CSPT showed a statistical reduction in M-CMAI scores

Gerder, Hart, and Zimmerman, 2008
Music and cognition

• Cognitive and behavioral effects of music-based exercises in patients with dementia.
• RCT, 15 pts
• Exercise training for three months, which consisted of daily physical exercises supported by music for 30 min/session
• The present study suggests a beneficial effect of cognition using a music-based exercise program in a group of patients with moderate to severe dementia.

Winckel and Feys, 2004

Socialization

• Most social activities involve some type of cognitive process
• Some activities the caregiver may not have to be present for
Case Presentation

- CDR 1.0 (mild mixed dementia)
- ChEI
- Memory and physical exercise
- Social program
- Family assistance

Follow up visits

- Monitor progression/confirming diagnosis
- Medication monitoring
- Monitor symptoms /adjustments in treatment
- Caregiver support/education
- Monitor for potential safety concerns
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