NYU Langone Health

Division of Geriatrics and Palliative Care

Collusion Or Collaboration?

Cognitive Impairment Detection And Earlier Diagnosis Of Dementia

The KAER Process

Relevance For Patients And Families

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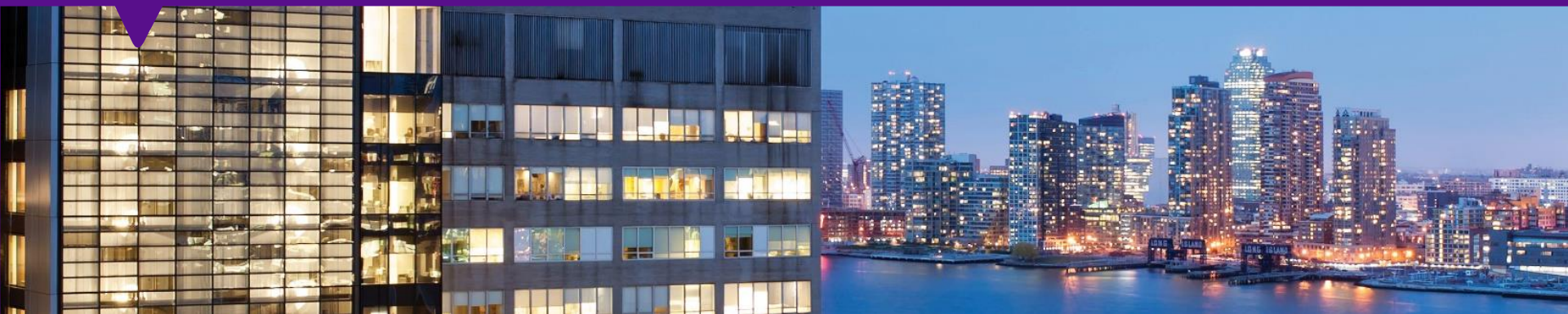
Joshua Chodosh, MD, MSHS, FACP
Director, Freedman Program on Cognition and Aging
NYU Alzheimer's Disease Center OR Core
NYU Aging Incubator, Co-Director
Professor of Medicine and Population Health



Disclosures

- Current Support:
  - National Institutes of Health (NIA/NINR)
  - Veterans' Health Administration
  - New York State Department of Health
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- No conflicts of interest to report

In The Absence of Cognitive Symptoms

- Screening for dementia is “controversial”
  - ✓ US Public Health Task Force – evidence review
  - ✓ Responding to symptom complaints
- Medicare Annual Wellness Visit Includes Cognitive Assessment
- Reframing the conversation from dementia to “brain health” or preserving function
- Making sure that we have concrete strategies for maximizing brain health

Physicians Do Not Identify or Diagnose Dementia

An Old Story – A New Mandate

Do We Detect Cognitive Impairment?

- Surveyed 729 physicians in southern California health maintenance organization (2000-01)
- Asked physicians to estimate the cognitive functioning of one of the selected patients participating in the cohort study of estrogen and memory function
- 2-Stage Dementia assessment (TICS/TDQ)
- Medical records reviewed for dementia documentation

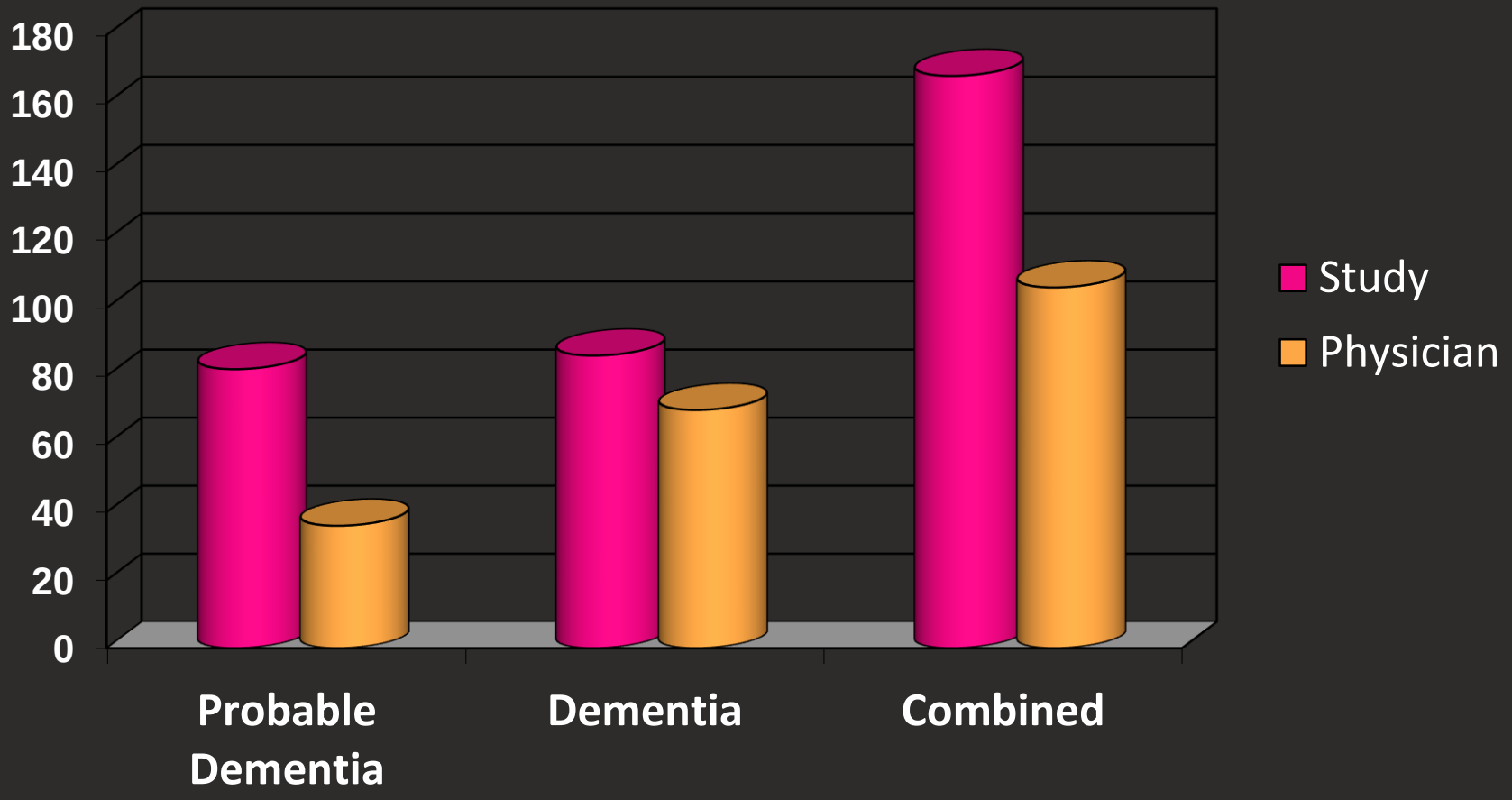
Chodosh, et al. *J Am Geriatr Soc*. 2004;52:1051-1059

Physician Recognition of Cognitive Impairment

- On a scale from 0 to 10 with 0 being “no cognitive impairment” to 10 being “severely impaired”, please estimate your patient’s level of cognitive impairment by placing an ‘X’ on the appropriate number

Chodosh, et al. *J Am Geriatr Soc*. 2004;52:1051-1059

Physician Recognition of Cognitive Impairment



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Can We Move the Conversation to “Cognition”?

Consider the following (somewhat rhetorical) questions about cognitive impairment detection:

- Are patients fearful?
- Are patients unaware?
- Do patients/families want to know?
- Do expectations about aging bias patients and families?
- Do expectations about aging bias physicians?

  If “brain health” is my agenda, how do I make this patient-centered?

A Man and His Son

- 93 Year Old Veteran in Geriatric clinic with his son
- Hypertensive with some gait instability
- Requires assistance with IADLs
- Highly social and converses freely about current events
- Had prior Mini-Mental State Exam of 21
- Today's Montreal Cognitive Assessment (MoCA) was 12
- We reviewed the exam results
- His son was dismissive of the test results: "My Dad is great!"
- We deferred further discussion….

Patient-Centered Approaches Explored Through Case Scenarios

- Different patient-family dyads require different approaches
- Finding the right words is easier if you don't have to go looking
- An array of options are currently available

- Case examples:
  1. Presenting clinical problems help initiate the conversation.
  2. Patient: "I am doing great!" Family: "No he is not."
  3. Patient: "I am worried about my memory."

Approaches to Addressing Brain Health: Starting the Conversation (The KAER Toolkit)

- Raise the topic of brain health and changes in memory and cognition that may occur in older adults.
- Ask older adult patients whether they have concerns about their memory or cognition
- Listen for and acknowledge patient-reported concerns about memory and cognition.
- Listen for and acknowledge family-reported concerns about the older adult's memory and cognition.
- Observe for signs and symptoms of cognitive impairment and possible dementia.

Approaches to Addressing Brain Health: Starting the Conversation (The KAER Toolkit)

- Include a question about memory and/or other cognitive functions in a routinely used health risk assessment
- Use available information about health conditions and functioning of older adults that are often associated with cognitive impairment.
- Raise the topic of brain health and changes in memory and cognition that may occur in older adults.
- Ask older adult patients whether they have concerns about their memory or cognition
- Listen for and acknowledge patient-reported concerns about memory and cognition.

Approaches to Addressing Brain Health: Starting the Conversation (The KAER Toolkit)

- Listen for and acknowledge family-reported concerns about the older adult's memory and cognition.
- Observe for signs and symptoms of cognitive impairment and possible dementia.
- Include a question about memory and/or other cognitive functions in a routinely used health risk assessment
- Use available information about health conditions and functioning of older adults that are often associated with cognitive impairment.
- Combined approaches

89 Year-Old Woman, Graduated Phi Beta Kappa, University of Chicago

- Moved six years earlier to be near her daughter
- Socially active, lives alone
- Charismatic, articulate, and proud
- Returns for 6-month routine visit with daughter
- Several year history of coronary disease
- New 7-pound weight loss

Screening Versus Diagnosis

- We are beyond screening here aren't we?
- Weight loss is a red flag for a geriatric syndrome
- This is our entry point.
- "Why do you think you have lost weight?" Pose the same question to daughter? – *Engagement*
- "Are you concerned?" – (if not raise the concern and why: can help us wade through the barrier of stigma)
- "Believe it or not but sometimes, we forget to eat."

MINI-COG™

- Three-item recall
  - ✓Assure registration (Maximum 3 trials)
- Clock drawing test
  - ✓Large circle, insert all numbers, “ten minutes past eleven”

MINI-COG™ Scoring

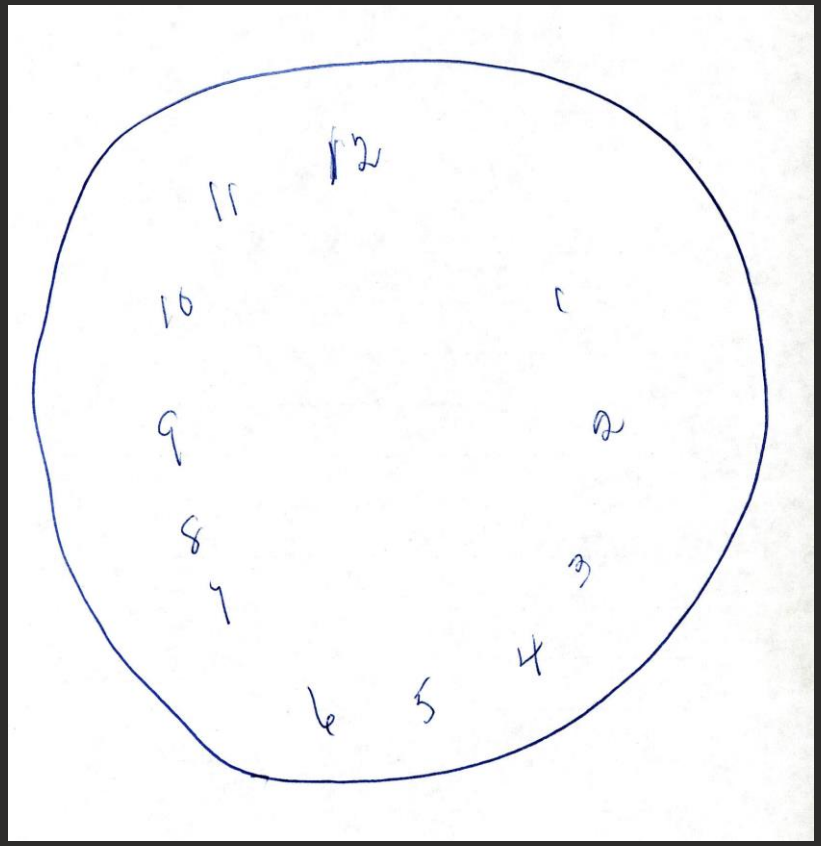
- One point for each item recalled (0-3)
- Normal clock = 2 points; abnormal = 0
- Normal clock must have:
  - All 12 numbers (relatively) evenly spaced inside circle
  - Two hands pointing to 11 and 2
- MINI-COG™ score:
  - 0-2 suggests dementia
  - 3-5 suggests no dementia
- MINI-COG™ outperforms MMSE and CASI*

*Borson et al, Int J. Geriatr Psychiatry. 2000;15:1021-1027

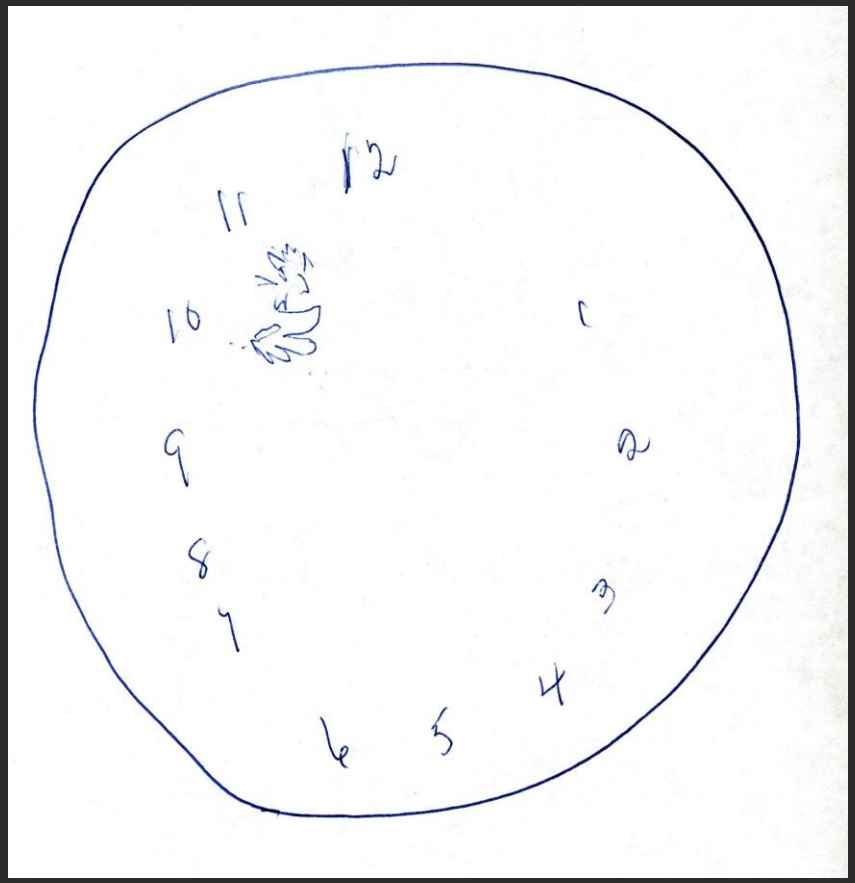
A Useful Addition: The Clock Drawing Test

- Less dependence on education and language
- Identifies deficits in:
  - ✓ Visual-spatial
  - ✓ Construction (planning)
  - ✓ Abstraction
  - ✓ Focal deficits
- Dependent upon fine motor skills and intact vision
- More qualitative– requiring some judgment

Her Clock Draw – First Part



“Place the hands to show 10 minutes after 11”



With an Abnormal Screening Test What's Next?

- Normalize findings – "Many of my patients have difficulty with this." (Different than saying "this is normal."
- Solicit impressions, feelings about test. "How do you think you did?"
- Offer words for those who have few – "Sometimes people are worried about how they do on tests like this one."

With an Abnormal Screening – Test Next Steps?

- Explain what the results mean in real but lay terms – “Making a clock requires a part of our brain that is in a different place where we remember some things.”
- Discuss the words that we use (e.g., “dementia”) to “disempower” their impact
- Explain in explicit terms, next steps (join the dyad)

We will get to evaluation later in this presentation.

79-Year Old Veteran Owns / Rents Apartments

- Still manages multiple apartments
- Wife seems concerned
- Has peripheral vascular disease and moderately controlled diabetes mellitus, hypertension
- Drives with no reported infractions or accidents
- Traditional marital relationship, domineering personality
- Do you want to broach cognitive screening?

Introducing “Cognitive Screening”

- Different statements will “resonate” for different people
- Link this process to more familiar clinical activities, e.g., screening for hypertension, using a stethoscope
- Explain the range of possible findings and the strategies we use depending on how one does
- Explore concerns about this process
- Emphasize the importance of how this process relates to health and safety moving forward

Meeting Resistance: Kick-start Statements

- “Do you know anyone with memory troubles?”
- If yes, “tell me more about that.”
- “What do you think about the possibility that in the future you might have trouble with your thinking and memory?”
- “Would you like to know about things you could do for yourself that may keep your brain healthy?”
- “Sometimes, medications that we prescribe or conditions that go untreated can affect our thinking and memory. Baseline measures are important.”

93 Year-Old Emeritus Professor of Physics

- Academically active: presenting papers, working daily
- Chronic anxiety disorder
- Wife diagnosed with mild cognitive impairment
- He is concerned about his memory
- Moderate aortic stenosis, claudication

Do no harm….

Minimizing Anxiety in the Already Anxious

- Explore the basis of concern – “What has happened that led to your concern about this?”
- “If my test shows you are having some difficulty, what will you do with that information?”
- “We look at many factors and a screening test is only one small part.”
- “Sometimes very capable people do not do well on a test because of nervousness.”
- “This is a good thing for us to do because we will both understand better if there is something we need to work on.”

Strategies to Keep Nearby

- Exercise emotional intelligence
- Explore the unstated
- Be reflective and use ‘us’ and ‘we’
- Establish trust and the sense of continuity
- Identify strengths of the patient and dyad
- Find the “half-full cup”

Summarizing Assessment

- The Tool Kit can facilitate increasing cognitive assessment as a part of usual clinical practice
  - Raise the topic
  - Listen for and acknowledge
  - Observe for signs and symptoms
  - Incorporate into usual healthcare routine
  - Integrate into other health and functional issues

Evaluation: Do We Need to Understand Dementia Subtypes?

- Alzheimer's Disease
- Frontotemporal Lobar Degeneration*
- Lewy Body Disease*
- Vascular Disease
- Traumatic Brain Injury*
- Substance/Medication Use
- HIV Infection
- Prion Disease*
- Parkinson's Disease
- Huntington's Disease
- Prion Disease
- Another Medical Condition
- Multiple Etiologies

DSM-V Major Neurocognitive Disorder

- A. Significant Cognitive Decline in 1 or more domains
  - Complex attention, executive function, working memory, language, perceptual motor, or social cognition
- Based on:
  - Concern of an individual, informant, clinician of significant decline
  - AND substantial impairment in cognitive performance, preferably documented by neuropsychological testing or, in its absence, another qualified clinical assessment
- B. Cognitive deficits interfere with independence in everyday activity
- C. Not delirium
- D. Not better explained by other mental health conditions

The Polka Dot Dress

- 79 year old gentleman presents with periods of confusion and visual hallucinations
- One year history of gait impairment and falls
- “He has his good times and bad times”
- Today, in the office, he is alert and oriented to place, month and year but not date
- What other history/exam features do you want to know?

Diagnostic Effort

- Tell me more about these images you see.”
- “What are the circumstances of falling?”
- “What are the changes in thinking and memory?”
- BP measurements?
- Physical examination – specific aspects?

Vivid Hallucinations

Diagnostic Effort

- “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”
- “What are the circumstances of falling?”
- “What are the changes in thinking and memory?”
- BP measurements?
- Physical examination – specific aspects?

Diagnostic Effort

- “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”
- “More clumsy tripping over things.”
- “What are the changes in thinking and memory?”
- BP measurements?
- Physical examination – specific aspects?

Diagnostic Effort

- “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”
- “More clumsy tripping over things.”
- “Memory’s OK sometimes, but gets real confused and then better again”
- BP measurements?
- Physical examination – specific aspects?

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- “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”
- “More clumsy tripping over things.”
- “Memory’s OK sometimes, but gets real confused and then better again”
- 150/85 lying, 105/60 standing
- Physical examination – specific aspects?

Diagnostic Effort

- “There is a woman who stands in the corner. She has on this polka dot dress and she is looking at me.”
- “More clumsy tripping over things.”
- “Memory’s OK sometimes, but gets real confused and then better again”
- 150/85 lying, 105/60 standing
- Mask-like facial appearance, mild rest tremor, some rigidity in tone

Dementia with Lewy Body Disease

- Encompasses dementia with Lewy bodies and Parkinson's disease dementia
- Second most common dementia due to neurodegenerative* disease (20%)
- Cognitive fluctuations: attention, level of arousal, executive function, visuospatial

**vascular dementias are not considered neurodegenerative*

Lewy Body Disease

- Spontaneous Parkinsonism* (axial > appendicular)
- Impairment in attention, executive, visuospatial function
- Fluctuating cognition*
- Recurrent visual hallucinations*
- Sensitivity to antipsychotic medications
- Confused with delirium

**Core features*

- Supportive features: repeated falls, syncope, severe autonomic dysfunction

Lewy Body Dementias

- Up to 80% w/PD progress to dementia
- Increase risk w/duration of PD, 50% after 10 yrs.
- With progression, both PD dementia and DLB become similar – continuum as opposed to dichotomous entities
- DLB is under diagnosed
  - Criteria only moderately accurate
  - Including REM Behavioral Sleep Disturbance improves sensitivity w/o decreased specificity

The Lawyer Who Fell From Grace

- 81 year old practicing attorney – well respected among his peers
- Missed appointments with clients, legal briefs less descriptive, episode of getting lost while driving home
- Given more menial tasks at work, not being as frequently included in some staff discussions

Diagnostic Effort

- “What are the thinking and memory problems?”
- “How long has this been a problem and has it progressed?”
- “Any other family members with similar difficulties?”
- Neuroimaging?

Diagnostic Effort

- “He has trouble remembering things that we have discussed, things we did yesterday, even today.”
- “How long has this been a problem and has it progressed?”
- “Any other family members with similar difficulties?”
- Neuroimaging?

Diagnostic Effort

- “He has trouble remembering things that we have discussed, things we did yesterday, even today.”
- “It started a few years ago, I guess, and it’s been getting worse.”
- “Any other family members with similar difficulties?”
- Neuroimaging?

Diagnostic Effort

- “He has trouble remembering things that we have discussed, things we did yesterday, even today.”
- “It started a few years ago, I guess, and it’s been getting worse.”
- “I think he had an uncle and and a few cousins.”
- Neuroimaging?

Alzheimer's Disease

- Insidious development of recent memory loss
- Forgetting details of recent events
- Difficulty learning and retaining new information (no benefit from cueing)
- Aphasia is frequent early in course (word-finding difficulties)
- Visuospatial (getting lost, constructional apraxia)
- Executive dysfunction (problem solving, multi-tasking, judgment)

Alzheimer's disease

- Memory impairment and anomia are earliest cognitive symptoms
- Anterograde amnesia – most common syndromic presentation
- Primary progressive aphasia (PPA): AD or FTD
- Logopenic variant (lvPPA) is speech that is nonfluent, effortful, and with word finding difficulties
- May be the most common aphasia phenotype of AD

62 year-old Business Executive

- Family reported 2-year h/o personality change
- Irritable, depressed appearing
- Lack of empathy, insight
- Refused medical care during that time period
- Forced out by “early retirement”
- Progressive loss of language
- Diagnosed with early AD
- Do you agree?

Additional History

- Starts eating hamburgers and ice cream exclusively (never ate hamburgers before)
- Began frequently opening and closing the garage door in the middle of the night
- Walking the dog at 3 AM totally naked
- What are you suspicious about now?

Diagnostic Effort

- Age of onset influences diagnostic probabilities
- Informant interview always important
- “Tell me about social circumstances and concerning behaviors.”
- Always assess depression
- Psychiatric history
- Family history
- Cognitive testing

Frontotemporal Dementia

- Third most common neurodegenerative disorder (second under age 65) 3-4/100,000
  - (20-30,000 case prevalence in US)
- Average age of onset is 50-60 years (as young as 30s) – only 10% over the age of 70
- Two distinct clinical syndromes:
  - Behavioral-variant FTD (1/2 to 2/3rds of FTD)
  - Primary progressive aphasias
    - Non-fluent a grammatic
    - Semantic (word finding)

Six months later

- Choking on hamburgers, only eating ice cream
- Losing weight
- Falling frequently with a gait abnormality
- How would you evaluate now?

Diagnostic Effort/Results

- Walking with bilateral foot drop
- When examining with the patient undressed
  - Diffuse muscle atrophy
  - Diffuse fasciculation
- What has happened here?

FTD Associations

- Motor neuron disease including amyotrophic lateral sclerosis (ALS) - ~ 15% before, during, or after diagnosis of FTD
- Progressive supranuclear palsy (PSP) and corticobasilar degeneration (CBD) pathologically related syndromes
- FTD with motor neuron disease due to DNA binding protein pathology (TDP-43)
- Consider genetic testing for patients with FTD and one or more first degree relatives with clinical syndrome of neurodegenerative disorder

83 year-old Retired Postal Worker

- Three-year history of gait impairment
- Kicked out of bridge club last year: “too slow”
- More forgetful but compensates with lists and post-it notes around the house
- Ten year history of non-insulin dependent diabetes and hypertension with evidence of regular medication use

Diagnostic Effort

- Patient / informant history
- Neuroimaging?
- Objective cognitive testing?
- Physical exam
- Gait assessment

Diagnostic Effort/Results

- “Tell me about your memory problems. When did you first notice this? Have things changed since then?”
- Hold off on neuroimaging until you really “need” it
- Memory testing – are recall deficits corrected with cuing?
- BP measure and earlier data
- Is gait broad based and apraxic?

Vascular Dementia

- Clinical heterogeneity
- Hard to distinguish mixed from pure
- Acute or insidious onset with variable progression
- Focal neurologic findings common
- Cognitive testing again can be non-specific but attention, executive function, processing speed
- Memory impairment characterized as cuing- dependent distinguishes from AD but often AD coexists in older age patients
- Second most common cause of early onset dementia
- Sub-cortical small infarcts plus white matter changes on MRI but specifics are controversial

Dementia Diagnosis and Sub-Type Determination Looks Easy, Right?

- In primary care settings, the majority of presentations will be straightforward
- But clarity is lost in the absence of objective data
- For those 25% who are less typical or where additional reassurance is needed, referral will be needed
- Consider referral to neurologic, geriatric, geriatric psychiatric, or neuropsychological care

Conclusion

- To help people with problems, one has to know that problems exist
- Starting the conversation (*"Kick-start"*) is necessary but not sufficient
- Dementia assessment and evaluation requires a multi-domain approach and is best accomplished with objective cognitive testing and informant history.
- Medication therapy remains only marginally effective.
- More importantly, education and psychosocial care carry enormous benefits.

THANK YOU

NYU Langone Health