Early Detection of Alzheimer’s Disease: Implications for Primary Care

2013 Geriatric Update
Meharry Consortium Geriatric Education Center

Inter-Professional Panel

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Disclosures

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Objectives

- Characterize the role of the primary care provider in early detection and management of Alzheimer’s Disease.

- Name two barriers and two benefits to early detection of Alzheimer’s Disease.
Statistics worth noting:

- In primary care settings, fewer than 50% of patients with dementia are diagnosed.

- Only half of patients currently diagnosed with AD are treated with currently approved therapies.

Let us begin this exercise with “1st things 1st!”

- Cognitive Decline likely begins early (in middle age!) Whitehall II prospective cohort study. BMJ. 2012 Jan 5
- Memory Loss - 40% of people aged 65 or older (16 million people)
- Not associated with functional impairment (normal functioning)
- Only 1% will develop Alzheimer’s Disease
Age Associated Cognitive Change

- Usually self aware of memory change
- Often with time, forgotten item is recalled!
- Take time recalling:
  - Recent events
  - Names of persons more than faces
  - “Tip of tongue”
  - Words in middle of sentence
- Retention of other cognitive skills

“2nd thing” front and center: Mild Cognitive Impairment

- Not demented
  - changes in cognition from baseline
  - lower than expected performance
  - ADLs may be slightly affected
- Seen in 10% of people age 65 or older
- Up to 50% will develop dementia in 3 yrs
- Researchers constantly looking for “Window of opportunity” for reversing brain pathology
- Newly proposed concept of “pre-clinical AD”
Finally - Dementia

def. gradual cognitive and behavioral disturbance that represents decline from prior level in 2 or > areas of cognitive Fn (memory, executive, speech, language, personality & visual perception

- Insidious onset, chronic, progressive
- Multiple cognitive deficits
- Significant impairment in social or occupational function
- Significant decline from a previous level of functioning
- Ultimate irreversibility

Memory Changes with Age

1. Age associated memory change
2. Mild cognitive impairment
3. Dementia
Clinical Progression of AD and MCI

Cognitive function

- MCI
  - MMSE 24–30
  - Mild subjective
    - objective
    - memory loss
  - Normal function

Mild AD
- MMSE 20–23
- Forgetfulness
- Repetitive questions
- Daily function impaired

Moderate AD
- MMSE 10–19
- Progression of cognitive deficits
- Short-term memory loss
- Word-finding difficulties

Severe AD
- MMSE 0–9
- Agitation
- Altered sleep patterns
- Total dependence: dressing, feeding, bathing

Vanderbilt University Medical Center
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Plan Update on AD National initiatives June 2013

- **Whole-exome and whole-genome sequencing** exploring additional risk factors / protective factors Alzheimer’s disease: “The samples are now being sequenced, anticipated increase data to allow genetic risk factor and protective factor identification.” [http://1.usa.gov/12dBLNBI](http://1.usa.gov/12dBLNBI).

- **Intranasal insulin** for treating people with mild cognitive impairment or mild AD: based on a pilot study that showed positive outcomes in a small group in the short-term using insulin directly into the brain without reducing blood sugar. (SNIFF) [clinicaltrials.gov/ct2/show/NCT01767909](http://clinicaltrials.gov/ct2/show/NCT01767909). Not open for recruitment.

Other

- **Clinical trial for AD Prevention**: in Colombia, South America in a group of extended families with early-onset familial AD, to look at whether drug therapy has an effect in preventing the advance of disease as indicated by abnormalities on brain imaging and clinical assessments. This clinical trial has begun: [http://1.usa.gov/12gG3aD](http://1.usa.gov/12gG3aD).

- **Utilizing pluripotent stem cells** that can be differentiated into neuronal cells to help to recognize differences in pathological mechanisms between normal- and Alzheimer's-affected individuals and possibly provide a way to screen for new interventions. This research is under way: [http://1.usa.gov/1bj0FSS](http://1.usa.gov/1bj0FSS).
NIH Suggestions for Identifying Risks

1. Rigorous consensus-based diagnostic criteria for AD should be improved
2. Better elucidate latent phase of disease
3. Develop objective and consensus based definition of mild cognitive decline (MCI)
4. Use standardized, well validated outcome measures that can be used to assess normal, MCI, and AD states

Strategies for early detection of Alzheimer's disease and related disorders

Angela L Jefferson, PhD
Director, Vanderbilt Memory & Alzheimer’s Center

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Presentation Overview:

1. Challenges of diagnosing AD and MCI in the primary care setting
   - AD & MCI Estimates in Nashville – Davidson Co.
   - AD in Standard Primary Care Practice
   - Diagnostic Limitations in Primary Care Setting

2. Benefits of Early Diagnosis
   - Earlier diagnosis has several benefits to patients and their families
   - Present data on whether risk knowledge influences prevention
3. Strategies for early diagnosis

• Review Biomarker limitations
• Review common screening tools and limitations
• Present data on cognitive complaints and diagnostic conversion
• Review “red flags” that suggest memory loss

4. Vanderbilt Memory & Alzheimer’s Center (VMAC) resources to help

a. VMAC Mission: Advance scientific community’s understanding of risk factors, early diagnostic markers, prevention and treatment methods for memory loss in older adults, including MCI, AD, and related disorders

b. VMAC Objectives
   • Conduct innovative memory and AD research
   • Provide excellent quality care to patients and families
   • Educate professionals and next generation of researchers and clinicians
Geriatric Update: When It’s Not Alzheimer’s

Curt Hagenau M.D.
General Neurology
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When its not Alzheimer’s

• Memory issues are a common complaint, even young or middle-aged patients
• Public awareness of Alzheimer’s disease has resulted in middle aged or older patients coming concerned about very mild memory impairment
Memory complaints: 
A view from the trenches

• Ask about and screen for memory problems
  • Don’t overlook early Alzheimer’s
  • But don’t diagnose it erroneously either
• Look for other issues that could be causing or aggravating memory problems
• If uncertain, park it in “MCI”, and follow

Memory problems in middle aged patients

• Stress, fatigue, multitasking
Memory problems in middle aged patients

- Sleep disturbance
  - Sleep apnea
  - Shift work
  - RLS/PLMS
  - Sedative medications

Memory problems in middle aged patients

- Anxiety or depression
Memory problems in middle aged patients

• Migraine or fibromyalgia

• Substance use
  • Alcohol, nicotine, caffeine, over-the-counter medications
Memory problems in middle aged patients

• Metabolic disorders
  • Diabetes, hypothyroidism, vitamin B12 deficiency, electrolyte disturbance

Additional concerns in older individuals

• Chronic microvascular ischemia

• Polypharmacy
Screening questions

• Are you sleeping well?
• Do you generally feel well?
• How are you doing emotionally?
• Glance at medication list
• Glance at review of systems sheet

Typical non-Alzheimer’s scenario

• 60-year-old lady called for her own appointment
• Describes in detail several incidents of forgetfulness, absentmindedness, word/name finding
• Chronic daily headache, Tylenol PM, caffeine
• Poor sleep quality, fatigue, mild depression
• On exam, anxious about her memory, MMSE 28
Typical Alzheimer’s scenario

• 65-year-old lady…Daughter initiated the evaluation, patient denies need for the visit
• Post-it note on the clipboard… “Daughter wants to see you in the hall before you go in”
• Patient initially looking her best, smiling initially…. but quickly changes to angry glances when the daughter starts describing things
• MMSE 24, missing orientation and short-term memory questions

Disposition

• If it is clearly not Alzheimer’s, reassure patient of such, and address the other issues
• If it does appear to be Alzheimer’s disease, consider neurology consultation for confirmation. Proceed with CT or MRI, and routine blood work (or let the neurologist order)
• If uncertain, openly discuss uncertainty regarding the possibility of Alzheimer’s disease, give MCI handout (Mayo Clinic has a good one), and follow clinically
Impact of AD Diagnosis

Diane Gramann, LAPSW, ACSW
Mental Health America of Middle Tennessee

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Objectives

- Review impact of diagnosis on family/caregivers
- Explain what can be done after diagnosis
- Highlight resources for family/caregiver support
Impact of Diagnosis

- Coping with feelings
- To tell or not to tell - who, what and when
  - Friends and Family
  - Employers and Colleagues
- Working with significant others
- Helping children and teens
- Planning makes a difference in options as the disease leads to changes in abilities and needs for both patient and caregiver

Caregiver Health

- Their own health is compromised.
- Alzheimer’s caregivers have a 50% increased mortality rate.
- Caregivers are at an increased risk for stress, anxiety, depression, and isolation.
- Caregiving creates stress within the family.
Family Caregivers: What Can Be Done

- Studies show that with one day of respite per week, the adverse effects of caregiving can be significantly reduced.
- Studies also show that family caregivers who receive support services (groups, education, referrals, etc.) are able to care for their loved one in their home for up to a year longer than those who do not receive support.

Linking Home-Based Caregivers with Respite Services

- Sitter Services
- Home Health Agencies
- Meals-on-wheels
- Adult day care
- Overnight respite
- Family/Church Assistance
- Family Relief Funds
Support Services for Family Caregivers
Types of Support Services

- Support Groups
- Educational opportunities
- Help Lines
- Referrals for geriatric care managers, in-home care consultations, assessment services, disease-specific programs, financial planners

How Professionals Can Help a Family Caregiver with a Loved One in a Long Term Care Facility

- Compassion
- Help caregivers decide how often to visit.
- Help caregivers decide how long visits should last.
- Encourage caregivers to maintain “outside” relationships, activities, hobbies.
- Encourage caregivers to take vacations, visit their children, etc.
- Help the caregivers develop a support system to relieve them.
References


7. Mittleman, MS; Haley, WE; Clay, OJ; Roth, DL. “Improving caregiver well-being delays nursing home placement of patients with Alzheimer’s disease.” Neurology 2006; 67:1592-1599.