Diagnosing Dementia: Doing So Effectively for Patients, Families, and Society

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Monday, November 14

Objectives

- Name the major causes of dementia and describe how the diagnosis is made.
- Outline the infrastructure needed in a health care system to effectively diagnose and manage those with dementia effectively.
- Describe how to best treat (manage) dementia and the role of a Dementia Resource Center in effective treatment (management).

Who is this guy?

- 1982-1996: Full spectrum family medicine in multiple settings, St. Cloud area
- 1996-2003: Faculty and program director Family Medicine Residency Program
- 2003-2009: Full spectrum family medicine as part of CentraCare Clinic
- 2009-present: Full time Geriatrician in LTC facilities in central Minnesota
What is dementia?

- A chronic, persistent disorder of the mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning
- Another example of organ failure
  - Heart Failure
  - Kidney Failure
  - Brain Failure

Dementia: A Little history

- 2500 BC: Egyptians aware of loss of cognitive ability
- 1838: First described by a French psychiatrist
  - Soon labeled as senile dementia
- 1892: Senile plaques under microscope first described
- 1903: Dr. Alois Alzheimer (Germany) related the plaques, found on autopsy of a 55 y/o patient with early onset dementia, to her terminal illness

Alzheimer’s: A Potential Public Health Crisis

- Scope of the problem
  - 5.3M Americans with AD in 2013
  - Growing epidemic expected to impact 13.8M Americans by 2050 and consume $1.1 trillion in healthcare spending
  - Almost 2/3 are women (longer life expectancy)
- Some populations at higher risk
  - Older African Americans (2x as whites)
  - Older Hispanics (1.5x as whites)
Base Rates
- 1 in 9 people 65+ (11%)
- 1 in 3 people 85+ (32%)
- 1 in 2 people 90+ (50%)

Alzheimer's Association Facts and Figures 2014

Rational for Timely Diagnosis
1. Patient Care / Outcomes
2. Time
3. Money

Money
- Dementia most expensive condition in the nation
  - $203 billion in 2013, $1.2 trillion in 2050
- Cost effectiveness of early diagnosis & treatment
  - Large scale studies ongoing
- Economic Models
  - No med known to alter costs of care
  - Disease education/support interventions increase caregiver capability, save money, and delay NH
  - Even if assume small # of people benefit (5%), $996 million in potential savings for MN over 15 years
  - Alzheimer's Association Facts and Figures 2014, Longo et al., 2014
Mini-Cog Improves Physician Recognition

![Graph showing Mini-Cog and Patient's own physician recognition rates across different CDR stages.]

Patient Outcomes

1. Improve quality of life
   - Patients can participate in decisions regarding their future care
   - Decrease burden on family and caregivers

2. Intervene to promote a safe and happy environment that supports independence
   - RTC support/counseling intervention
   - Non-pharm intervention reduces NH placement by 30% and delays placement for others by 18+ months

The message: You have a disease, but we can help you make life better for you and your family.

Myth: People don't want to know they have Alzheimer's disease

Studies Agree:
Most people want to know.
Patient Outcomes

3. Improved management of co-morbid conditions
   • Underlying dementia = risk factor for poor compliance with ALL treatment goals (e.g., diabetes, hypertension, CHF, anticoagulation)

4. Reduce ineffective, expensive, crisis-driven use of healthcare resources
   • Unnecessary hospitalization (dehydration/malnourishment, medication mismanagement, accidents and falls, wandering, etc.)

The message: We want to provide you with high quality care that is proactive and cost effective

5. Treat reversible causes
   • NPH, TSH, B12, hypoglycemia, depression

The message: Maybe you don’t really have dementia after all!

6. If you don’t know about the AD comorbidity, your inability to effectively manage their chronic diseases will impact your quality scores.

Outcomes of Elective Surgery:
Preoperative Cognitive Impairment and Mortality

Cognitive Impairment Predicts Readmissions

Mini-Cog Performance Novel Marker of Post Discharge Risk Among Patients Hospitalized for Heart Failure (Patel, 2015; Cleveland Clinic)

- **Method**: 720 patients screened with MiniCog during hospitalization for HF
- **Results**: 23% failed screen (M age 78, 49% men)
  - MiniCog best predictor of readmission over 6 mos. among 55 variables
  - Stronger than length of stay, cause of HF, and even comorbidity status
  - Readmission rate 2 times higher among screen fails
  - Fails discharged to facility (vs. home) had lower readmission rates within first 30 days

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Clinical Practice

Cognitive Impairment Identification

- **Screening**
- **Case Finding**
  - Start with screen, for instance Mini-Cog
  - If fails, get further family history and more extensive cognitive screen, like MMSE, MoCA, or SLUMS
  - If abnormal, do W/U or refer to dementia champion, either within your practice or outside of it
Signs and Symptoms of Dementia

- Memory loss
- Confusion
- Disorientation to time or place
- Getting lost in familiar locations
- Impairment in speech/language
- Trouble with time/sequence relationships
- Diminished insight
- Poor judgment/problem solving
- Changes in sleep and appetite
- Mood/personality/behavior changes (BPSD)
- Wandering
- Deterioration of self care, hygiene
- Difficulty performing familiar tasks, functional decline

Issues we look for in practice

- Red flags
  - Repetition (not normal in 7-10 min conversation)
  - Tangential/abrupt/behavioural responses
  - Losing track of conversation
  - Frequently deferring answers to family member
  - Over reliance on old information/memories
  - Irritative to appearance
  - Unexplained weight loss or “failure to thrive”

Practice Tips

- Intact older adult should be able to:
  - Describe at least 2 current events in adequate detail (who, what, when, why, how)
  - Describe events of national significance
  - 9/11, New Orleans hurricane disaster, mid-term election, etc.
  - Name or describe the current President and an immediate predecessor
  - Describe their own recent medical history and report the conditions for which they take medication
Things we look for in Practice

- Family observations:
  - Any instances whatsoever of getting lost while driving, trouble following a recipe, asking same questions repeatedly, mistakes paying bills
  - These concerns should be taken seriously: by the time family reports problems, symptoms have often been present for quite a while and are likely getting worse
  - One question to consider:
    - If this patient was alone on a domestic flight across the country and the trip required a layover with a gate change, would he/she be able to manage that kind of mental task on his/her own?
    - If answer is "not likely" for a patient of any age: Red flag

Family Questionnaire

Family Questionnaire

Dementia Work-up and Diagnosis
Dementia Work-Up

Dementia Diagnosis
(Neurocognitive Disorder)

- Evidence from the history and clinical assessment that indicates significant cognitive impairment in at least one of the following cognitive domains:
  - Learning and memory (impaired ability to learn or acquire and remember new information—items in 5 minutes)
  - Executive function (impaired reasoning and handling of complex tasks, poor judgment)
  - Language
  - Perceptual-motor function
  - Complex attention
  - Social cognition (changes in personality, behavior or comportment)
    - Recognize thoughts, beliefs, and intentions in oneself and others (often referred to as theory of mind)
    - Identify basic emotions such as happiness, sadness, fear, anger, disgust, and surprise in others (emotion processing)
    - Make decisions by weighing choices associated with variable rewards and punishments

Dementia

- The impairment must be acquired and represent a significant decline from a previous level of functioning
- The cognitive deficits must interfere with independence in everyday activities
- In the case of neurodegenerative dementias such as Alzheimer disease, the disturbances are of insidious onset and are progressive, based on evidence from the history or serial mental-status examinations
- The disturbances are not occurring exclusively during the course of delirium
- The disturbances are not better accounted for by another mental disorder (e.g., major depressive disorder, schizophrenia)
- Cognitive impairment established by history-taking from the patient and a knowledgeable informant; and objective bedside mental status examination or neuropsychological testing
Alzheimer’s Disease: 60-80%  
- Includes mixed AD + VD

Lewy Body Dementia: 10-25%  
- Parkinson spectrum

Vascular Dementia: 6-10%  
- Stroke related

Frontotemporal Dementia: <5%  
- Personality or language disturbance

Alzheimer’s is Insidious

- Accumulation of neuropathology in the brain 10-20 years before symptoms appear
- Relationship to MCI
What is Alzheimer’s Dementia

Risk Factors for Alzheimer’s
- Age
- Family History
- APOE-e4 (apolipoprotein)
- Cardiovascular Disease risk factors
- Head Trauma

Alzheimer’s Dementia: It’s history
- 1984: Plaques made up of b-amyloid protein
- Until 1985, Alzheimer’s disease thought to be different than senile dementia
- Now neurodegeneration called neurofibrillary tangles under microscope
- Second protein called Tau
- These proteins accumulate and are neurotoxic
Delivering the Diagnosis

- Connect patient/family to community resources
- Care for both patient and caregiver
- Examples: Senior linkage line, Alzheimer’s Association
- Discuss follow-up
  - Want to see patient and family member at regular intervals (e.g., q6 months) for proactive care
  - Discuss involvement of care coordinator
Delivering the Diagnosis

• Address immediate problems:
  • Management of medications, finances, meals
  • Driving
  • Home safety
  • Caregiver burnout
  • Social isolation
  • Inactivity/lack of exercise

• Encourage family involvement/assignments
  • Family need to accompany patient to doctor appts.

Delivering the Diagnosis

• Recommend future actions
  • Create a ‘Plan B’
    • What if primary caregiver is suddenly unavailable?
  • Begin to investigate home care, AL, LTC, other living options
  • Develop transportation options
  • Complete Advance Directives
  • Consider future medical care (ACP)—how aggressive?
  • Consider exploring a medical/legal Power of Attorney

Treatment: Medications

• Cholinesterase inhibitors
  • Donepezil, Rivastigmine, Galantamine, Cognex
  • Possible side effects: nausea, vomiting, syncope, dizziness, anorexia

• NMDA receptor antagonist
  • Memantine
  • Possible side effects: tiredness, body aches, dizziness, constipation, headache

• Current medications
  • Help functioning at synapses, but don’t impact cell death
  • Are too late in the process
The care for patients with Alzheimer’s has very little to do with pharmacology and more to do with psychosocial interventions.

- Involve care coordinator
- Connect patient and family to experts in the community
  - Example: Alzheimer’s Association
  - Refer every time, at any stage of disease, and for every kind of dementia
  - Stress this is part of their treatment plan and you expect to hear about their progress at next visit

Impact of Optimal Practices

- Reduces utilization through comorbidity management
- Reduces behavioral symptoms
- Delays institutionalization
- Increases treatment plan compliance
- Reduces acute episodes
- Improves health outcomes
- Reduces hospital, ER utilization, and care costs
- Improves overall well-being of person with dementia
- Improves caregiving longevity and well-being

Why Primary Care?

Next steps for this Public Health Crisis

- SBMS Circle of Health Dementia Campaign (October 24)
- Previous vaccination and pain management campaigns
- In combination with the Central Minnesota Council on Aging, they are doing the background work for developing a Dementia Resource Center
  - To help secure regional capacity for dementia diagnosis and management

Needs Assessment

- SBMS Leadership
  - Help primary care clinics find a champion and structure their practices in a way to meet need for screening, case finding and ongoing management
  - Identify and secure local and regional subspecialists (neurology/psychiatry)
  - Help neurologists structure practice in a way to minimize referral times
  - Obtain adequate neuropsych testing capacity
  - Educate all relevant providers in diagnosis and management of dementia, including care plan development
  - Develop a region wide standardized approach to screening, diagnosing and managing dementia

- Dementia Resource Center (Virtual?)
  - Provide family education on cognitive issues before and after diagnosis
  - Assist patient/care giver in navigating through the entire dementia journey through the remainder of their life
  - Connect patient/care giver to relevant community resources (including diagnostic and medical management capabilities), legal advice and financial matters, as needed
  - Help secure adequate community resources when the region lacks capacity
  - Improve communication of diagnosis, management and associated care plan across entities
  - Provide family care consultation, support and assistance in decision-making in all relevant matters, as needed
Needs assessment—other

• Developing a dementia-friendly region
  - Education and awareness
  - Culture change
• Secure adequate start up funding (Circle of Health)
• Research on the best means to achieve all of these goals in a financially viable manner
• Apply what we learn to other chronic diseases, like depression, and other geriatric issues

Any interest in learning more about or becoming part of the Central Minnesota Dementia Campaign?

• Contact:
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• Questions
• Thoughts
• Concerns
• Insights
• Reactions