Dementia: Overview and Update

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Geriatric Workforce

Enhancing education and access through community partnerships.

- Duke Geriatrics
- Primary Care
- Community agencies
- Seniors

Enhancement

Funded by a grant from the US Health Resources and Services Administration.
Dementia Inclusive Durham
"Enhancing Well-Being of Persons Living With Dementia"

Conference Take-aways

- Laura and Harold
- Journey to Well-being: Sharing the Experience
  - Start small and focus on one problem at a time
  - Be willing to experiment and make changes
  - Don’t wait for the perfect condition
- Dr. Al Power
  - Well-being of the individual as a whole: Everyone CAN do it and it doesn’t require renovations to physical buildings. The process can begin immediately. Change can take place.

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Overview

• What is dementia?
• What do we do about it?
Mattie
Overview

• What is dementia?
• What do we do about it?
Normal Aging:

• Decline in brain weight and size
• Slowed processing speeds and verbal abilities
• Improvements in judgement and reasoning
Causes of Cognitive Impairment

- Mild memory disorders
- Delirium
- Depression or anxiety
- Medications
- Alcohol
- Low hearing or vision
- Sleep problems
Definition of dementia

Acquired syndrome in which progressive deterioration in global intellectual abilities is of such severity that it interferes with the person’s customary occupational, functional, and social performance.

New terminology:
• Major neurocognitive disorder
Dementia- Prevalence

• 1 in 7 NC residents over 65
• 30% (or more) in 90 + year olds
• Increased risk of:
  ➢ Delirium
  ➢ Death (5th leading cause)
  ➢ Disability
  ➢ Nursing home placement
• US: $157-215 billion annually
• NC: 448,000 provided $6.2 billion in unpaid care

Hurd et al, New England Journal of Medicine, 2013
Relative Proportions of Dementia Diagnoses

Alzheimer’s disease (AD)

- Slowly progressive
- Memory
- Orientation
- Visuospatial function
- Reasoning and decision making
Frontotemporal Lobe Dementia (FTD)

- Behavior
- Speech
- Decision making
- Insight
- Gait and balance
- Vision

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Dementia with Lewy Bodies (DLB)

- Fluctuating symptoms
- Parkinsonism
- Visual hallucinations
- Sensitive to antipsychotics
- Prone to falls
Vascular Dementia (VaD)

- Spectrum disorder
- Vascular risk factors +/- history of stroke
- Variable cognitive deficits
- Executive function
- Apathy
- Gait instability
Mild Cognitive Impairment (MCI)

- Impairment in memory or other cognitive domain
- No apparent impact on function
- Amnestic v. non-amnestic versions
- Approx 15% progress to dementia annually

New terminology:
- Minor neurocognitive disorder
AD brain changes start decades before symptoms show.

Amnestic MCI: memory problems; other cognitive functions OK; brain compensates for changes.

Cognitive decline accelerates after AD diagnosis.

Normal age-related memory loss.

Total loss of independent function.

Life Course

Healthy Aging  Amnestic MCI  Clinically Diagnosed AD
Hypothetical Model of AD Biomarkers
AD Risk factors

- Age
- Genes: APOE-4
- CV disease/risk factors
- Head trauma
- Inflammation
- Delirium
- Low education level
- Medications
Work-up

Before:
- Collect records from prior visits
- Family and other caregivers at the visit
- Collect medications for review at visit

During:
- Establish goals of visit
- Medical, social, family, medication and symptom history with separate time for family
- Exam: Memory, Mood, Mobility, Hearing, Vision
Work-up

- **After:**
  - Bloodwork:
    - CBC, Kidney and liver function, Electrolytes, Vitamin B12, Thyroid function.
    - Occasionally: Syphilis, HIV, Lipids
  - Brain imaging:
    - CAT scan or MRI—age < 60, focal findings, abrupt decline, anticoagulants, cancer
  - Neuropsychological testing
- Rarely
  - EEG or PET scan—approved if FTD suspected
Overview

• What is dementia?

• What do we do about it?
What’s Next?

- Treatment (Prevention)
- Symptoms
- Safety
- Caregiver
- Well-being
- Advance Planning
The future....

• Breaking up protein
  – Solanezumab
  – BACE inhibitors
  – Vaccines

• Decreasing inflammation
  – Pioglitazone
  – CSP 1103

• Insulin resistance
  – Intranasal insulin

http://www.alz.org/research/science/alzheimers_treatment_horizon.asp
Today and every day...

- Exercise
- Diet
- Control risk of stroke and heart attack
- Address other problems:
  - Medications
  - Sleep problems
  - Hearing loss
  - Depression

http://www.alz.org/research/science/alzheimers_treatment_horizon.asp
www.geriatriceducation.duke.edu
Symptom Management: Cognition

- Memory loss, communication problems, loss of executive function
- Goals:
  - better cognitive function
  - independence/ease of care
- Acetylcholinesterase inhibitors
- Memantine
BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS IN DEMENTIA (BPSD) ARE COMMON

MMSE >20: n=119; MMSE 20–10: n=125; MMSE <10: n=162
*p<0.05 for the correlation of symptom with MMSE score

Figure 2: NPI symptoms in AD, by MMSE groupings (mild, moderate, severe) (Craig et al., 2005)
Symptom Management: BPSD

• Variety of environmental and physical causes
• Non-pharmacologic measures often effective in behavioral symptoms
• Avoid harmful medications
Safety

- Medication Management
- Home safety
  - appliances
  - wandering
  - firearms
- Driving Safety
- Personal/Financial security
Driving Safety

- Guidelines
- Driving Assessment Resources
  - Duke Adult Out-Patient OT Services:
    Office: 919-684-4543
    Fax: 919-668-2420
- NC Division of Motor Vehicles
- Education materials
  - At the Crossroads: A Guide to Alzheimer’s Disease, Dementia, and Driving
PREDICTORS OF FAMILY CAREGIVER STRESS

- Frail, female, or strained spouse caregiver living with care recipient
- Depressed, demented, angry or substance-abusing caregiver
- Past or current conflicted family relationships
- Financial necessity of family care
- Challenging sleep, personality or behavioral symptoms of care recipient
- Hospitalization or nursing home placement of care recipient
Advance Care Planning

- Stages of progression
- Level of care determination
- Decision making capacity
- Advance care planning
  - Physical or emotional distress
  - Insufficient sustenance
  - Falls
  - Infection
  - Death
DO NOT RESUSCITATE ORDER

Patient’s full name _______.

In the event of cardiac and/or pulmonary arrest of the patient, efforts at cardiopulmonary resuscitation of the patient SHOULD NOT be initiated. This order does not affect other medically indicated and comfort care...

I have documented the basis for this order and the consent required by the NC General Statute 90-21.1(b) in the patient’s records...

Signature of Attending Physician/Physician Assistant/Nurse Practitioner

Printed Name of Attending Physician

Address _______.

City, State, Zip _______.

Telephone Number (office) _______.

Telephone Number (emergency) _______.

Do Not Copy  Do Not Alter
Overview

• What is dementia?
• What do we do about it?
Statewide Call to Action

Recommendations:

• Raise awareness
• Improve care options
• Support caregivers
• Promote safe, inclusive communities
• Outreach and research

Dementia - Capable North Carolina: A Strategic Plan for Addressing Alzheimer’s Disease and Related Dementias

NCIOM Task Force on Alzheimer’s Disease and Related Dementias, 2016.
Resources

- National Alzheimer’s Project Act (NAPA): 
  www.alzheimers.gov
- Alzheimer’s Association: www.alz.org
- NC Alz-Inc: www.alznc.org
- Duke Family Support Program: 
  www.dukefamilysupport.org  (800) 646-2028
- Duke Geriatric Evaluation and Treatment (GET) Clinic: 
  (919)620-4070
- Bryan Alzheimer’s Disease Research Center: 
  www.adrc.mc.duke.edu