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Alzheimer's Dementia: Information for Primary Care

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Summary: Alzheimer's is the most common form of dementia, causing problems with memory, thinking and behaviour. Alzheimer's is an incurable degenerative disease. Patients usually have memory loss as an early symptom, however they can remember distant events. There is no cure, which means that identification and referral to appropriate supports and services is key.

Case

- Your 80 year old patient is brought in by her daughter.
- The daughter says that she's noticed some changes in her mother:
  - It started off as forgetting names of people and forgetting where she put things around the house.
  - Now her mother is more irritable, often confused, has troubles expressing herself, and just wants to spend time alone at home
  - And the other day, when the daughter came to visit, the daughter found the stove left on inside the house, and the mother was out wandering in the backyard, seemingly lost...
  - Her daughter asks, "Is this just normal aging, or is it something else?"

Epidemiology

- 50-70% of dementias are Alzheimer's disease
- 10% of people >75 year old have dementia
- 25% of people >85 year old have dementia
- 1/3 of seniors dies with Alzheimer's or another dementia
- 6th leading cause of death in the united states
- 2/3 of people Alzheimer's are women
- Women in their 60s have a 1 in 6 lifetime risk for developing Alzheimer's

Signs and Symptoms

- Behavioural Changes
  - Withdrawal from work or social activities
  - Restlessness
  - Physical aggression

    - Screaming
    - Agitation
    - Wandering
- Mood/emotional changes
    - Changes in mood and personality
- Cognitive changes
    - Memory loss which causes problems in day to day life, e.g. forgetting recent events
    - Comprehension
    - Problems with planning or solving problems
    - Difficulty completing familiar tasks
    - Confusion with time or place
    - Trouble understanding visual images and spatial relationships, e.g. misplacing things and losing the ability to retrace steps
    - Language, e.g. New problems with words in speaking or writing
    - Decreased or poor judgement
    - Learning capacity, e.g. unable to learn new things

DSM-5 Criteria for Alzheimer Dementia

A. The criteria are met for major or mild neurocognitive disorder
B. There is insidious onset and gradual progression of impairment in one or more cognitive domains (for major neurocognitive disorder, at least two domains must be impaired).
C. Criteria are met for either probably or possible Alzheimer's disease as follows:

· For Major Neucognitive Disorder:
· Probably Alzheimer's disease is diagnosed if either of the following is present; otherwise, possible Alzheimer's disease should be diagnosed.

1. Evidence of a causative Alzheimer's disease genetic mutation from family history or genetic testing
2. All three of the following are present:

a. Clear evidence of decline in memory and learning and at least one other cognitive domain (based on detailed history or serial neuropsychological testing).
b. Steadily progressive, gradual decline in cognition, without extended plateaus
c. No evidence of mixed etiology (ie. Absence of other neurodegenerative or cerebrovascular disease, or another neurological, mental, or systemic disease or condition likely contributing to cognitive decline)

· For mild neurocognitive disorder:
· Probable Alzheimer's disease is diagnosed if there is evidence of a causative Alzheimer's disease genetic mutation from either genetic testing or family history
· Possible Alzheimer's Disease is diagnosed if there is no evidence of a causative Alzheimer's disease genetic mutation from either genetic testing or family history, and all three of the following are present:

1. Clear evidence of decline in memory and learning
2. Steadily progressibe, gradual decline in cognition, without extended plateaus
3. No evidence of mixed etiology (i.e. absence of other neurodegenerative or cerebrovascular disease, or another neurological or systemic disease or condition likely contributing to cognitive decline).

D. The disturbance is not better explained by cerebrovascular disease, another neurodegenerative disease, the effects of a substance, or another mental, neurological, or systemic disorder

DSM-IV vs. DSM-5

- In DSM IV, Alzheimer's is under Delirium, Dementia, Amnestic and Other Cognitive Disorders
- In DSM 5, it is under neurocognitive disorders, specifically major or mild neurocognitive disorder due to

Alzheimer's Disease.

Differential Diagnosis

- Vascular Dementia
- Diffuse Lewy Body Dementia
- Pick's Disease
- Normal pressure hydrocephalus
- Prion disease
- Depression
- Delirium
- Metabolic and Hormone problems
- Nutritional problems
- Infection
- Brain tumours

Comorbid DIagnoses

- Parkinson's Disease
- Dementia with Lewy Bodies
- Pick's Disease
- Huntington's Chorea
- Syphillis
- AIDS
- Multiple Sclerosis
- Creutzfeldt-Jakob Disease

Physical Exam

- There is no single test to diagnose Alzheimer's – thus, thorough history, mental status and physical exam (including neurology) is important to help rule out other conditions such as depression, delirium

- Assessment tools to determine cognitive impairment include:
    - Mini Mental State Examination (MMSE)
    - Six item cognitive impairment test (6CIT)
    - Abbreviate Mental Test (AMT)
    - Montreal Cognitive Assessment (MoCA)

- The Primary Care Dementia Assessment & Treatment Algorithm (PCDATA) recommends the following:

1. Person with cognitive decline, functional complaint, over 65 years old, failure of brief cognitive screening test?
2. If yes to 1, test them with the MoCA
3. If the MoCA score is less or equal to 25/30, move onto investigations and other evaluations (i.e. CBC)
4. If the investigations and other evaluations are abnormal, treat and retest the MoCA
5. If the investigations and other evaluations are normal or you've treated them but the MoCA score is still less or equal 25/30, ask yourself if the functional impairment is due to the cognition problems
6. If yes to 5, it is probably Dementia
7. If no to 5, is the cognitive complaint noticed by others?
8. If yes to 7, then it is probably mild cognitive impairment
9. If no to 7, it is probably normal aging and you should observe over time

Source: The 4th Canadian Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD4)

Investigations

- Consider:
  - CBC (complete blood count) to help rule out anemia
  - Electrolytes
  - Urea
  - LFT
  - B12 levels to help rule out low vitamin B12
  - Thyroid levels to help rule out hypothyroidism
  - Blood glucose to help rule out hyperglycemia
- Other tests:
  - Electroencephalogram
  - CT
    - Indications for CT in patients with cognitive decline (Gauthier et al, 2012)
      - Age < 60 year
      - Rapid decline (i.e. over 1-2 months) in cognitive function
      - Duration of dementia < 2-year
      - Recent head trauma
      - New unexplained neurologic symptoms or localizing signs
      - History of cancer
      - Use of anticoagulants or history of bleeding disorder
      - History of gait disorder or urinary incontinence early in dementia
      - Atypical cognitive symptoms on presentation
      - Current gait disturbance
  - Positron emission tomography (PET)
    - When available, PET may be helpful to evaluate brain metabolism or amyloid deposition, and thus can help differentiate between dementia subtypes such as Alzheimer disease and Lewy body dementia
  - Magnetic resonance imaging (MRI)

Management

There is no cure for Alzheimer's, however there are non-pharmacological and pharmacological treatments that are used to help improve symptoms and slow the progression off the disease.

These include:

- Maintaining good health
- Regularly exercise
- Sleep well
- Limit smoking and drinking alcohol
- Limit salts and fats
- Making changes to everyday life
- Don’t try to rush things, take your time
- Do only one thing at a time, when you try to do multiple things it is easy to become confused
- Have a daily schedule and keep to it
- Use memory aids
- Keep “to do lists”
- Use alarms on clocks or cell phones to remind you of things

- Put notes all over the house
- Keep important numbers in a place that is easily and often seen.
- Meet with an occupational therapist to set up other strategies

Pharmacological Treatment

To treat cognitive symptoms (such as memory loss and confusion), the two main types of medications in use are

- Cholinesterase inhibitors and
- Memantine

1. Cholinesterase inhibitors

Indication

- For managing mild to moderate Alzheimer's Disease

Medication information

- Donepezil (Aricept, Eisai/Pfizer)
  - Start at 5mg once daily at bedtime
  - After 1 month, assess treatment
  - Can be increase to 10mg max once daily
  - Side effects include: diarrhea, muscle cramps, fatigue, nausea, vomiting and insomnia
- Galantamine (Reminyl, Shire)
  - Start at 8mg once daily for 4 weeks
  - Increase to 16mg one daily for 4 weeks
  - Maintenance treatment is 16-24mg once daily
  - Side effects include: nausea and vomiting
- Rivastigmine (Exelon, Novartis)
  - Start at 1.5mg twice daily
  - After 2 weeks can increase in steps of 1.5mg twice daily according to tolerance
  - Max dose of 6mg twice daily
  - If you use a rivastigmine patch start at 4-6mg patch perday and can increase to a max of 95.mg patch per day for atleast 4 weeks
  - Side effects include: nausea and vomiting

2. Memantine

Indication

- Recommended for moderate Alzheimer's disease who have intolerance or contraindications to cholinesterase inhibitors or severe Alzheimer's disease

Medication information

- Start at 5 mg once daily
- Can increase 5mg at weekly intervals
- Max dose of 20mg daily
- Side effects include: dizziness, headache, constipation, somnolence and hypertension

Reference: 2011 NICE guidelines.

When to Refer

- Refer when you believe that the cognitive impairment is not just minor but you suspect it to be part of a wider picture of dementia
- If you feel medications are required

Who to Refer To

- Neurologist
- Geriatrician
- Psychiatrist
- Memory Clnic

References

Gauthier S, Patterson C, Chertkow H et al. 4th Canadian Consensus Conference on the Diagnosis and Treatment of Dementia. Can J Neurol Sci 2012; 39: S1-8.

Donepezil, galantamine, rivastigmine and memantine for the treatment of Alzheimer's disease, NICE Guideline, 2011.

About this Document

Reviewed by members of the Department of Psychiatry and Family Medicine at the University of Ottawa. Reviewed by members of the Family Medicine Program at the University of Ottawa, including Dr's Farad Motamedi; Mireille St-Jean; Eric Wooltorton (2014). Special acknowledgements to Dr's Prakesh Babani, Psychiatry Resident (uOttawa, Class of 2017) and Christopher Clarkstone, Medical Student (uOttawa, Class of 2017).

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