

Mangagement of Dementia

A Practical Primary Care Focus

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The Challenge





An Increasing Challenge

- ❑ Estimated number of U.S. adults with dementia was 3.4 million in 2002
- ❑ This number is projected to double by 2025

Simple Dementia Definition

- Progressive impairment in recent memory
- Additional impairment in another cognitive function
 - Aphasia, Apraxia, Agnosia, Executive function (planning, organizing, sequencing, abstracting)
- Functional impairment of daily activities.

Ten Warning Signs

- Loss of recent memories
- Difficulty with familiar tasks
- Language difficulty
- Disorientation
- Poor judgement
- Difficulty with abstract thinking
- Misplacing
- Change in behavior
- Personality changes
- Loss of initiative

Cascade of mechanisms

- Amyloid deposition
- Inflammation
- Abnormal phosphorylation of Tau
- Free radical toxicity
- Disturbed calcium homeostasis
- Synaptic loss
- Cholinergic dysfunction
- Neuronal loss
- Norepinephrine and Serotonin dysfunction

Diagnosis

❖ History

❖ Exam

❖ Imaging

❖ Lab testing

History

- ✓ Level of function
- ✓ Caregiver Status
- ✓ Current medications
- ✓ Parkinsonism
- ✓ Sleep problems
- ✓ Behavioral symptoms
- ✓ Spirituality

Vascular Risk History

- Metabolic syndrome
- Diabetes mellitis
- Cerebrovascular accidents
- Transient ischemic attacks
- Coronary artery disease
- Hypertension
- Hyperlipidemia

Exam

- Check for parkinsonism
- Evaluate behavior
- Evaluate caregivers
- Cognitive testing
 - Clock Draw
 - MMSE
 - MoCA (Montreal Cognitive Assessment)
- Depression Screening

Imaging and Labs

- Brain Imaging
 - ✓ ? Vascular disease
 - ✓ ? Hydrocephalus
- EKG
- CBC, BMP
- B12, Folic Acid
- TSH
- ? Genetic testing (ApoE, MTHFR)
- Sleep study (if indicated)

Medications



Anticholinergic Load

- The total sum of anticholinergic medications a patient is taking.



Common Anticholinergic Medications

- Diphenhydramine (Benadryl)
 - All antihistamines really
- H2-blockers
- Tricyclic Antidepressants
- Anti-muscarinic medications used for urinary urgency
- Dicyclomine (Bentyl)

Acetylcholinesterase Inhibitors

- ❑ donepezil (Aricept), rivastigmine (Exelon), galantamine (Razadyne).
- ❑ Helps increase the neurotransmitter acetylcholine in the brain.
- ❑ Modestly, but significantly, helps to maintain cognition and level of function.
- ❑ Adverse effects: Best to dose after breakfast to avoid gastrointestinal side effects and vivid dreams or nightmares. Bradycardia is a rare side effect.

NMDA-glutamate receptor antagonist

- memantine (Namenda/Namenda XR)
- Works theoretically by reducing apoptosis of nerve cells by blocking excitotoxicity of neurons.
- Modestly, but significantly, helps to maintain cognition and level of function especially in combination with acetylcholinesterase inhibitor.
- Adverse effects: It has no serious side effects. Dizziness, headache, constipation and rash are uncommon.

NSAIDS

- Anti-inflammatory effects
- Risky in the elderly

Nutrition



Nutrition

- Maintenance of lean body mass (i.e. the prevention of ongoing weight loss),
 - intake of adequate but not excessive calories
 - monitor protein intake.
- Increasing carbohydrate intake may increase cognitive performance.

Vegetables and Fruits

- Abundant intake of antioxidant vitamins, B vitamins, and minerals.
- More vegetables and fruits
 - Increased intake of green leafy vegetables has been associated with slower cognitive decline in several populations of aging adults.
- Foods rich in polyphenols, such as green tea and blueberries, may have neuroprotective effects.

Fats

- Increase N-3 (omega-3) fatty acids from fish
- Intake of total fat, saturated fat, and cholesterol should be moderate.
- A diet low in n-6 PUFAs (linoleic acid) may reduce cognitive decline.

Dietary tryptophan

- Serves as a precursor to serotonin and may help increase serotonin in the brain.
- Nuts, seeds, tofu, cheese, chicken (organic), turkey (organic), SMASH fish, oats, beans, lentils, and omega-3 enriched eggs.

Monitor deficiencies

❖ Monitor for iron deficiency

- Encourage increase in dietary iron intake.

❖ Monitor for folate and Vitamin B12 deficiency

- supplementation if deficiency is present.
- There may be a role in testing for MTHFR mutation and treating with L-methyl folate and methycobalamin.

Increased Socialization

- Encourage continued socialization throughout the course of a patient's progression with cognitive impairment.
- Helps with orientation, mood and cognitive exercise.
- Recommended to continue a routine with schedule to help reduce confusion and agitation.

Supplements



Supplements

- Co-Q-10 (ubiquinone)
- Fish oil (n-3 DHA)
- Turmeric
- Vitamin D3
- B Vitamins
- Phosphatidylserine (PS)
- Huperzine A
- Vinpocetine

Supplements

- Bacopa
- Gotu Kola
- Panax Ginseng
- Ginko Biloba
- Resveratrol
- Quercetin

Exercise



Exercise

- Physical exercise: Aerobic conditioning has been shown to improve some aspects of mental function by 20-30%. Weight bearing exercise should be included.
- Cognitive exercise: Mental training increases dendritic sprouting and enhances CNS plasticity (Online options, crossword puzzles, music, or art).

Mind Body Techniques

- Transcendental meditation.
- Mindfulness or Zen Buddhist meditation.
- Yoga (multiple types).
- Autogenics
- Kirtan Kriya
- Progressive muscle relaxation
- Affirmations
- Visualization.
- Listening to music.
- Receiving a therapeutic massage
- Prayer meditation

Spirituality



Spirituality

- This is an area of exploration that can be very beneficial to the family and caregivers. I would explore with them the things that bring and have brought most joy to the patient. Then I would encourage them to emphasize those things frequently within the patients daily routine.

Behavioral Disturbances



Behavioral Disturbances

- Agitation
- Delusions
- Hallucinations
- Depression
- Anxiety

Nonpharmacologic Approaches

- Ensure physical needs are met
- Evaluate for pain
- Evaluate and support caregivers
- Offer options for caregiver training
- Establish Routine
- Reduce over-stimulation
- Encourage socialization
- Evaluate living environment

Other Approaches

- Cognitive Stimulation
- Reminiscence therapy
- Validation therapy
 - acknowledgement/redirection
- Reinforcement techniques
- Animal-assisted therapy

Sensory Stimulation

- Acupuncture
- Aromatherapy
- Light therapy
- Massage
- Touch therapy
- Music therapy

Conventional Treatments

- SSRI medications
- valproic Acid (Depakote ER)
- Benzodiazepines
- Anti-psychotic medications

Antipsychotic Medication Side Effects

- Death
- Anticholinergic side effects
- Dyslipidemia
- Extrapyrimaldal symptoms
- Neuroleptic malignant syndrome
- Postural hypotension
- Prolonged QT interval
- Sedation
- Seizures
- Type 2 Diabetes mellitis
- Weight gain
- Cerebrovascular accidents
- Parkinsonism

Complimentary Options

- Hops
- Valerian Root
- Passion Flower
- Milky Oats (or just Oats)
- Ashwagandha
- Holy Basil

Sleep Disorders

- Obstructive sleep apnea
- Restless leg syndrome
- Insomnia
- REM sleep disorder (most common with Lewy Body Dementia).

Melatonin

- Melatonin: 400 mcg extended release 1 hour before bed for sleep disturbance. Usually well tolerated in patients who have cognitive impairment. Side Effects: sedation and unsteady gait are possible, but less likely than other sedative medications.
- Avoid sedatives if possible.

Summary



Summary

- Reduce Anticholinergic Load
- Treat early and often
- Support the caregivers
- Be cautious but persevere with treatment of behavior.