DEMENTIA

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Created: June 2011

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Introduction

It is estimated that 8% of Canadians over 65 years of age and 1/3 of those over 85 years meet the criteria for dementia[1]. The leading cause of dementia is Alzheimer Disease (AD; 40-50%), followed by Mixed Dementia (20-25%), Dementia with Lewy Bodies (5-15%), Vascular Dementia (5-10%), Frontotemporal Dementia (5-10%) and Mild Cognitive Impairment (MCI)[2,3]. Plan for 3-5 visits to assess patients suspected of having this disorder.

Diagnostic considerations

DSM IV Diagnostic Criteria for Dementia[4]

A. Memory impairment plus one or more of the following:

– Aphasia (language disturbance)

– Apraxia (impaired ability to carry out motor activities despite intact motor function)

– Agnosia (failure to recognize or identify objects despite intact sensory function)

– Disturbance in executive function (e.g., planning, organizing, sequencing, abstracting)

B. The cognitive deficits cause major impairment in social or occupational functioning and represent a substantial decline from a previous level of functioning.

C. The deficits do not occur exclusively during the course of a delirium.

Visit 1

History from patient and caregiver

Description of cognitive problems (Amnesia, Aphasia, Apraxia in ADLS, Anomia)

Onset, duration, evolution of symptoms

Decline in function (ADLs, IADLs)

Precipitating factors

Review risk factors: CVD, HT, CVA, DM, dyslipidemia, atrial fibrillation, head injury family history of early dementia

Medication review (i.e. benzodiazepines, ETOH, anticholinergics)

Metabolic disorders

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Visit 2

Physical Exam & Investigations

Physical exam:

BP

Vision

Hearing

Cardiovascular

Neurological (including gait, EPS)

Investigations

Screening tools[5]:

1. MOCA (sens=100%, spec=87%)[6]. Instructions and test available in several languages at http://www.mocatest.org. *Add 1 point for 12 or fewer years of education. Score of ≥ 26 is considered normal.

2. MMSE (sens=44-1002%; spec=46-100%)7 : Mild dementia 18-26/30; if score greater than 24 need more testing to make diagnosis due to poor sensitivity of test above this level.. Accuracy affected by age, education and socioeconomic status. Correction tables by age and education available with cut offs ranging from 15-30.

3. Clock drawing for rapid AD screen (sens=20-60%; spec =60-93%)[8]

4. Mini-cognitive assessment (3-item recall and clock drawing; sens 76-99%, spec=89-93%[9,10])

Laboratory investigations: CBC, TSH, Lytes, Cr, Ca, Vitamin B12, Glucose (and any indicated on history/physical exam)[4].

Imaging: No routine imaging indicated[11] (see CT Head box)

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Visits 3-5

Communicate diagnosis and plan management

Education & support for patient and caregivers

Referrals to CCAC including OT to assess home safety; +/-PT for: gait assessment

Referral to Alzheimer Society for support/education

CT Head if ≥1 of the following[3,5]:

Vascular disease risk factors
Age < 60
Rapid onset (1-2 months)) of decline in cognition and function
Unexplained decrease in function
Dementia duration < 2 years
Signs of head trauma
Unexplained neurological symptoms
History of cancer, bleeding disorder, anticoagulant use
Associated with urinary incontinence and/or gait disorder early in illness (i.e. normopressure hydrocephalus)
Unusual symptoms
Gait disorder

Dr. Michael Evans developed the One-Pager concept to provide clinicians with useful clinical information on primary care topics.

Differential Diagnosis

1. Normal aging

2. Depression

3. Mild cognitive impairment: differentiated from dementia based on clinical assessment of cognition and function. Patients may have subjective and objective memory impairment with preservation of other cognitive abilities; slight or absent functional impairment and do not meet criteria for dementia. 5-15% of patients will convert to dementia annually[12]. Best evidence for prevention based on control of vascular risk factors and maintaining mental alertness[13,14].

4. Delirium (a transient, reversible, acute confusional state)

Pharmacological management of Dementia[15,16,17]

Medication	Dosing	Indication/efficacy	Contraindications
Cholinesterase inhibitors Donepezil (Aricept™) Rivastigmine (Exelon™) Galantamine (Reminyl extended release ™) ODB Coverage: MMSE 10-26 within 60d before coverage. To continue coverage disease must not have progressed/deteriorated while on this drug and must have MMSE 10-26.	D: Starting dose: 5mg qd (titrate up after 4-6weeks) Mild-Mod: 5-10mg qd R: starting dose 1.5mg BID Titrate up q2weeks - to 3-6mg BID (Max dose 6mg bid) R-patch: 4.6 mg/24hours, increased after 4 weeks if tolerated to 9.5mg/24hours **not covered by ODB. G: Extended release capsule administers total dose once a day. Start 8mg, qd titrate dose up q4weeks to 16mg qd to max of 24 mg qd. Take with food	Modest benefit for global clinical impression, cognition, function, behaviour in mild-moderate dementia. NNT = 12 minimal improvement[1,2] NNT = 42 marked improvement[2]. Takes 3-6 months[2]	Side effects: NNH = 12-16% adverse event drop out rate[1,2] D: gastrointestinal (nausea 11%, diarrhea 10%) sleep disturbance 9%, pain or headache 9%. R: worst for GI side effects (nausea 37%, vomit 23%, diarrhea 16%), dizziness 19%, headache 15%. Rivastigmine patch still may cause N/V but generally has less GI side effects G: GI(nausea 17%, vomit 7%), dizziness 10%, headache 8%, injury 8% CI: hypersensitivity to drugs or piperidine derivatives, bradycardia, sick sinus syndrome, unexplained syncope, conduction block, seizure disorder, severe hepatic or renal impairment Caution: cardiac dx, PUD, asthma, COPD, elderly with low body weight Use will likely exaggerate the effects of succinylcholine-type muscle relaxants
NMDA Receptor antagonist Memantine (Ebixa™)	Gradual titrate dose to therapeutic dose of 10 mg po BID Suggested dosing schedule: Week 1: 5mg qam Week 2: 5mg BID Week 3: 10 mg qam/5mgqpm Week 4 and beyond: 10 mg BID	Moderate-severe AD as monotherapy or adjunct to therapy with cholinesterase inhibitor. No evidence that it modifies course of illness May decrease rate of clinical deterioration in patients with mod-severe AD	Side effects: anxiety, confusion 6%, constipation 6%, dizziness 7%, headache 6%, fatigue, hallucinations, hypertension, sleep disturbance, somnolence and vomiting. Caution with use with: cimetidine, ranitidine, procainamide, quinidine, quinine, hydrochlorothiazide, anticholinergics, dopaminergic agonists. Do not combine with amantadine, ketamine, and dextromethorphan

Followup care

1. 6-week trial of therapy: review adverse effects and adherence

2. Every 3-4 months: repeat cognitive testing, assess functioning, behaviour; screen and treat depression; review patient/caregiver expectations[18]. Expected decline in MMSE: 1-2 points/yr with mild (21-26 score); 2-4points/yr with moderate (10-20 score)[19].

When to refer

Rapidly progressing disorder
Uncertainty of diagnosis
Patient preference
Treatment problems or failure with a cholinesterase inhibitor
Significant depression, especially if not responsive to treatment
Need for additional psychosocial help, significant behaviour or functional problems, caregiver support
Genetic counselling
Interest in research studies

References can be found online at http://www.dfcm.utoronto.ca/programs/postgraduateprograme/One_Pager_Project_References.htm