Key Aspects to Consider with Cognitive Changes in the Elderly

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Bruyère pour des soins continus.
Bruyère Is Continuing Care.

Background

- Why should we care?
  – 13% of the Canadian population is 65 yr and above (Statistics Canada 2009)
  – By 2016 estimated to grow to 16% (Ontario Seniors' Secretariat, 2003)
  – Canadians with ARD (Alzheimer's & Related Dementias) expected to rise form 500,000 to 1,125,000 in 30 years (Canadian Institute of health and Research, 2010)
  - 1 in 4 Canadians has a family member with Dementia (Alzheimer'sBC.org)

Background

- Cognitive change is a common presenting complaint for community-dwelling elderly patients
- Cognitive change ≠ dementia in all cases
- Cognitive change = geriatric syndrome with etiology that is often multifactorial

Screening Recommendations

- Canadian Task Force on Preventative Health Care 2001
  - Insufficient evidence to recommend for or against routine screening for dementia (C)
  - Self reported memory complaints should be evaluated (B)
  - Caregiver complaints regarding memory should be assessed fully (A)
- USPSTF 2003
  - Evidence is insufficient to recommend for or against routine screening for dementia in older adults

Screening

- Third Canadian Consensus Conference on Diagnosis and Treatment of Dementia 2008 – no recommendations regarding routine screening

- However, need to maintain a high index of suspicion, given dementia rates:
  - 6-8% in over 65
  - 30% over 85
- Bottom Line:
- “Screen” all patients instead by asking about functional (ADL, IADL) status changes
- Investigate further when issues identified

Clues to investigate further re dementia

- Caregiver complaints of memory difficulties and functional decline (aka dwindles)
- Post operative delirium, or delirium associated with a medical illness
- Poor historian – vague, repetitive stories; reliance on spouse to provide history (“head-turning sign”)
- Changes in mood, personality and behaviour
- Increasing social withdrawal and isolation – giving up activities

Clues continued…

- Poor compliance with instructions, diseases not well controlled – ex HTN, pain meds, missed appointments
- Medication issues – unused pills in dosette, calls from pharmacy
- Driving concerns – accidents, tickets, family concerns
- Neglect of appearance, nutritional intake (weight loss), home

Case

- Mrs. A is a 70 yr old female who presents with some question of memory loss (short-term) and increasing social isolation
- In the past year, daughter reminds her to take her pills and go to appointments.
- Past Medical History:
  - ? TIA.
  - DM
  - HTN.
  - Osteoporosis
  - OA with chronic low back pain
  - A.fib
  - Medications have not been changed recently
  - no new symptoms to suggest a new illness.
  - recent blood work done with annual exam = WNL

Approach to History-Taking

- When looking for clues to dementia on history, consider the 5 A's:
  - Amnesia (short-term memory ↓)
  - Aphasia (word-finding difficulties)
  - Agnosia (difficulty recognizing familiar people & places)
  - Apraxia (difficulty carrying out motor tasks despite intact motor abilities)
  - Altered executive function (difficulty with planning, organizing, sequencing)

*To meet DSM-IV criteria for dx of dementia, need Amnesia + 1 other A, *in addition* to impact on function

Case of Mrs. A (continued)

- Has never driven
- Overpayment on several bills - daughter has since taken over
- Lives alone and history on nutritional intake not clear, but no significant weight loss
- Continues to cook, but spoiled food seen in the fridge
- Dtr notes pt buying too much when grocery shopping
- Once got lost coming home from the grocery store and let a nice young man help her home
- Pt does not think there is anything wrong
- Increased falls reported
- Has stopped going out to weekly bingo games

Approach to History-Taking cont…

- Questions should explore all of the symptoms associated with depression
  - Should still consider MSIGECAPS (mood, sleep, interest, guilt, energy, concentration, appetite/weight, psychomotor slowing or agitation, suicidal ideation
  - According to the DSM-IV, need ↓ mood or anhedonia + 4 others x at least 2 weeks for MDE
- In the elderly, also think about irritability, apathy, multiple somatic complaints, worsening of chronic pain symptoms, negativistic thinking or behaviour (e.g. intentional medication non-adherence)
- **Elderly patients are less likely to report feeling sad or depressed**

Dementia vs. Depression

- In depression:
  - ↓ in energy level
  - Cognitive impairment develops concurrently with mood symptoms
  - Cognitive changes reverse with ↑ in mood
  - Insight into memory loss preserved
  - “I don’t know” answers on testing
  - Neurovegetative symptoms worse in AM (diurnal variation)
- In dementia:
  - Energy level usually normal
  - Insight into memory loss limited (concerns often raised by family)
  - Agitation usually worsens in pm
  - Social withdrawal often due to lack of initiation
  - Activities enjoyed once initiated by someone else

Depression and Dementia

- Often coexist, and late life onset depression may occur during the onset of dementia
- Recognition of depression symptoms in dementia may be challenging – apathy and loss of interest may be part of dementia and NOT a manifestation of depression; look for enjoyment of activities when caregivers arrange and facilitate participation in social events (makes depression less likely in the demented patient)
- If unclear, a trial of antidepressants may be useful with clear target symptoms to monitor for response – ie improved sleep, less anxiousness, weight gain

Approach to History-Taking cont…

- Do not forget to look for delirium as a potential contributor
- Consider the CAM as a screening tool:
  1. Acute onset with fluctuations **+**
  2. Inattention **and**
  3. Disorganized thinking **or**
  4. Altered LOC
- If screen is positive, sensitivity and specificity > 90%

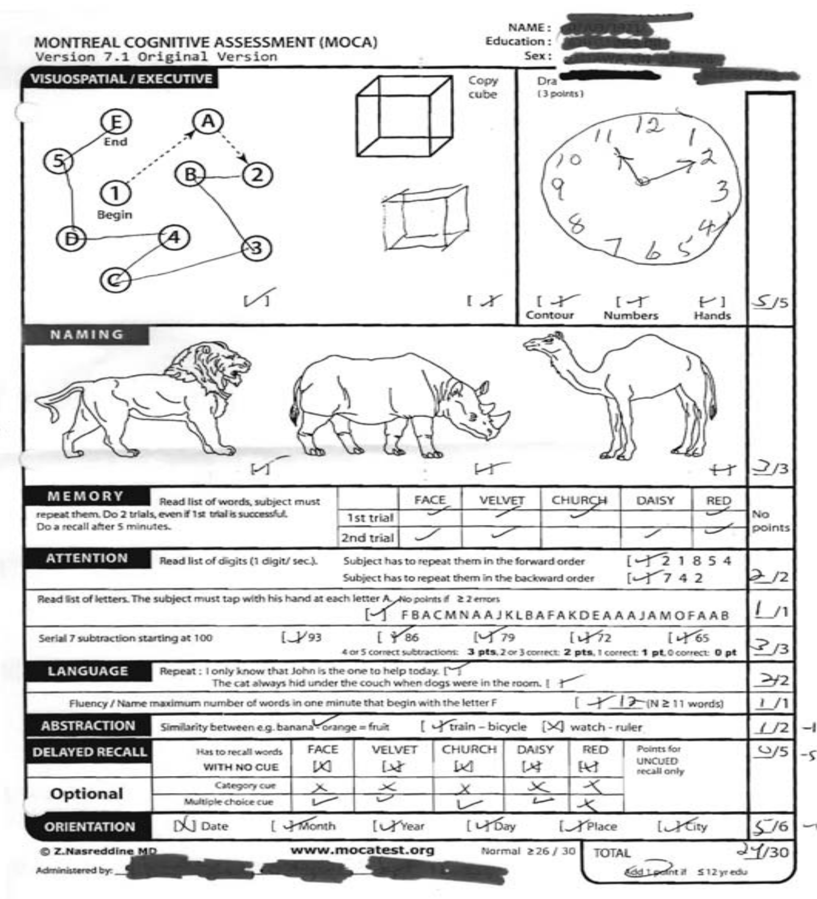
The Case of Mrs. A (cont'd.)

- Sleep reported as good though cannot be verified as pt lives alone
- Appetite also reported as good when pt eats over at daughter's house
- Daughter finds pt not interested in going to museum as before
- No significant change in energy noted
- Pt does not read the paper anymore- finds it frustrating and has to read stories over

Cognitive Testing

– Clothing is stained
– Physical exam is normal though noted to turn to her daughter whenever you ask a question
– She has a gr. 12 education and worked as a clerk
– MMSE is 23/30 (8/10 orientation, 0/3 recall, -1 for serial 7s, -1 for 3-stage command)
– MoCA 24/30 (23+1 for level of education); (0/5 delayed recall, ½ for abstraction, 5/6 for orientation)

Mrs. A’s MoCA Test



MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.1 Original Version

NAME :
Education :
Sex :

VISUOSPATIAL / EXECUTIVE

E End, A, 5, B, 2, 1 Begin, D, 4, 3, C

Copy cube

Draw CLOCK (Ten past eleven) (3 points)

[ ] Contour [ ] Numbers [ ] Hands

5/5

NAMING

2/3

MEMORY

Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

No points

ATTENTION

Read list of digits (1 digit/ sec.).
Subject has to repeat them in the forward order [ ] 2 1 8 5 4
Subject has to repeat them in the backward order [ ] 7 4 2
2/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors
[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B
1/1

Serial 7 subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65
4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt**
3/3

LANGUAGE

Repeat : I only know that John is the one to help today. [ ]
The cat always hid under the couch when dogs were in the room. [ ]
2/2

Fluency / Name maximum number of words in one minute that begin with the letter F [ ] 12 (N ≥ 11 words)
1/1

ABSTRACTION

Similarity between e.g. banana - orange = fruit [ ] train – bicycle [ ] watch - ruler
1/2

DELAYED RECALL

Has to recall words WITH NO CUE	FACE	VELVET	CHURCH	DAISY	RED	Points for UNCUED recall only
Optional: Category cue						
Multiple choice cue						

0/5

ORIENTATION

[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City
5/6

© Z.Nasreddine MD www.mocatest.org Normal ≥26 / 30 TOTAL 24/30
Add 1 point if ≤ 12 yr edu

Administered by:

Mrs. A’s MMSE (part 1)

Service de santé SCO Health Service
Soeurs de la Charité d'Ottawa / Sisters of Charity of Ottawa
Ottawa (Ontario)

SOINS INFIRMIERS / *NURSING*

BREF EXAMEN STANDARD DE L'ÉTAT MENTAL
STANDARDIZED MINI-MENTAL STATE EXAMINATION

Nom du patient / Patient's Name
Date de naissance / Date of Birth
N° du dossier / Health Record No.

NIVEAU DE CONSCIENCE / *LEVEL OF CONSCIOUSNESS* ☐ COMATEUX / *COMATOSE* ☐ STUPOREUX / *STUPOROUS* ☐ SOMNOLENT / *DROWSY* ☐ ALERTE / *ALERT*

ORIENTATION (NOTER TEXTUELLEMENT TOUTES LES RÉPONSES / *RECORD VERBATIM RESPONSES*)

TEMPS / *TIME*
- L'ANNÉE / *YEAR*: 2011
- LA SAISON / *SEASON*: Fall
- LE MOIS / *MONTH*: Dec.
- LE JOUR / *DAY*: 17 X
- LE JOUR DE LA SEMAINE / *DAY OF THE WEEK*: Monday

(-1) 4 / 5

ENDROIT / *PLACE*
- LE PAYS / *COUNTRY*: Kanata → Canada
- LA PROVINCE / *PROVINCE*: Ontario
- LE VILLAGE, LA VILLE / *TOWN, CITY*: Ottawa
- LE NOM DE CET HÔPITAL / *NAME OF THIS HOSPITAL*: Bruyère
- L'ÉTAGE / *FLOOR*: 4

(4) 5 / 5

CAPACITÉ D'ENREGISTRER / *REGISTRATION* (ÉCRIRE LES OBJETS ENREGISTRÉS / *WRITE IN ITEMS RECALLED*)
NOMBRE D'ESSAIS REQUIS / *NUMBER OF TRIALS NEEDED* ☐

ball, flag, tree.

3 / 3

ATTENTION ET CAPACITÉ DE CALCULER / *ATTENTION AND CALCULATION*
(NOTER TEXTUELLEMENT TOUTES LES RÉPONSES / *RECORD VERBATIM RESPONSES*)

ÉPELEZ LE MOT <<MONDE>> À L'ENVERS.
SPELL "WORLD" BACKWARDS.

OU / *OR*

EN COMMENÇANT PAR 100, COMPTEZ À RECULONS PAR 7. (ARRÊTER APRÈS CINQ RÉPONSES)
BEGIN WITH 100 AND COUNT BACKWARDS BY 7. (STOP AFTER 5 ANSWERS)

93 – 86 – 78 – 71 – 64

(-1) 4 / 5

MÉMOIRE / *RECALL* (ÉCRIRE LES OBJETS ENREGISTRÉS / *WRITE IN ITEMS RECALLED*)

Ø

(-3) 0 / 3

LANGAGE ET RECONNAISSANCE DES OBJETS / *LANGUAGE AND NAMING*

CAPACITÉ DE RECONNAÎTRE / *ABLE TO IDENTIFY*: MONTRE / *WRISTWATCH* ☑ OUI / *YES* ☐ NON / *NO*; CRAYON / *PENCIL* ☑ OUI / *YES* ☐ NON / *NO* — 2 / 2

210014-199607

(Verso / Over)

Mrs. A's MMSE (part 2)

SOINS INFIRMIERS / *NURSING*
BREF EXAMEN STANDARD DE L'ÉTAT MENTAL
STANDARDIZED MINI-MENTAL STATE EXAMINATION

N° du dossier / *Health Record No.:*
Nom du patient / *Patient's Name:*

RÉPÉTITION / *REPETITION* (NOTER TEXTUELLEMENT TOUTES LES RÉPONSES. PAS DE «SI», «ET» OU «MAIS») *(RECORD VERBATIM RESPONSES. NO "IFS", "ANDS" OR "BUTS")*

✓ / 1

CAPACITÉ DE LIRE / *READING*

CAPACITÉ DE / *ABLE TO* — LIRE CORRECTEMENT ET DE SUIVRE DES DIRECTIVES / *READ CORRECTLY AND FOLLOW DIRECTIVES* — ☑ OUI / *YES* ☐ NON / *NO* — ✓ / 1

DIRECTIVES - TROIS ÉTAPES / *3 STAGE COMMAND*

1. PRENDRE LE PAPIER DANS SA BONNE MAIN / *TAKES PAPER IN CORRECT HAND* — ☐ OUI / *YES* ☑ NON / *NO*
2. PLIER LE PAPIER EN DEUX / *FOLDS THE PAPER IN HALF* — ☑ OUI / *YES* ☐ NON / *NO*
3. METTRE LE PAPIER SUR LE PLANCHER / *PUTS PAPER ON FLOOR* — ☑ OUI / *YES* ☐ NON / *NO*

2 / 3 -1

CAPACITÉ D'ÉCRIRE / *WRITING* (VEUILLEZ ÉCRIRE UNE PHRASE. / *PLEASE WRITE A SENTENCE.)*

What did you have for breakfast?

1 / 1

COPIEZ L'IMAGE SUIVANTE / *COPY THE FOLLOWING DESIGN*

1 / 1

23/30

TOTAL DES POINTS DU QUESTIONNAIRE BEEMS / *TOTAL SCORE ON SMMSE* — 29 / 30

DATE — HEURE / *TIME* — SIGNATURE

PERMISSION D'UTILISER LE BREF EXAMEN DE L'ÉTAT MENTAL OBTENUE AUPRÈS DU DR. D.W. MOLLAY, MARS 1992.
PERMISSION TO USE THE STANDARDIZED MINI-MENTAL STATE EXAMINATION OBTAINED FROM DR. M.W. MOLLOY, MARCH 1992.

Mrs. A (cont'd.)

- Can any conclusions/impressions be drawn regarding a possible diagnosis based upon what we know so far?
  - Yes….

Diagnosing Mrs. A

- Can likely rule out delirium because:
  - Her presentation is chronically progressive with no new symptoms to suggest infection or other delirium-related cause
  - Physical exam within normal limits
  - Blood work unremarkable

Diagnosis for Mrs. A (cont'd.)

- Depression is also ruled out as a likely possibility because:
  - While increasing social isolation could be consistent with anhedonia, there does not appear to be evidence of low mood
  - No other symptoms to suggest depression
  - Change in habits (e.g. stopped bingo, doesn't wish to go to museums) consistent more likely with frustration over deficits and/or apathy of dementia

Diagnosis for Mrs. A (cont'd.)

- (Mixed) Dementia is the most likely presumptive diagnosis because:
  - Clear evidence of short-term memory loss (on history, testing) which has been gradually progressive
  - Likely also has executive dysfunction (e.g. poor planning re groceries, bill payments, appointments)
  - Possible agnosia (has gotten lost/failure to recognize familiar landmarks)
  - Undeniable functional impact (e.g. needs reminders for meds, help with bills, unable to give history on own)
  - Lack of insight into deficits
  - Presence of vascular risk factors makes pure Alzheimer's Disease less likely (mixed picture more likely)

Planning Visits & Billing Effectively

- Diagnosis & initial management is long & cannot be completed in 1 visit
- Will likely need 4-5 visits, ideally in relatively close succession

Planning Visits & Billing Effectively continued…

- 1st visit:
  - Thorough history
  - Order labs
  - F/U on any other minor issue as required (mood, BP, etc.)
  - Billing code: A007 ($33.10)
- 2nd visit:
  - Physical exam
  - Review labs & order imaging as needed
  - F/U on any other minor issue as required
  - Billing code: A007 ($33.10)
- Can combine 1st & 2nd visit (time permitting)
  - Billing code: A003 ($71.25)

Planning Visits & Billing Effectively continued…

- 3rd visit:
  - – Brief review of findings on previous hx, physical exam, labs, imaging
  - – Cognitive screening:
    - MMSE + MoCA
    - MMSE + Clock + Trails B
    - MMSE + Clock + Ramparts
  - – Decision re dx (MCI vs. dementia, suspected etiology)
  - – Billing code: K032 (Neurocognitive Assessment) ($58.35)

Planning Visits & Billing Effectively continued…

- 4th visit:
  - Education on diagnosis of dementia
  - Discussion re & initiation of cholinesterase inhibitor trial if appropriate
  - Billing code: K013 (Counselling on health condition) ($58.35)
- 5th visit:
  - F/U on response to cholinesterase inhibitor
  - F/U on any other minor issue
  - Billing code: A007 ($33.10)

Planning Visits & Billing Effectively continued…

- Also, do not forget to bill for the following (if applicable):
  - – MTO Mandatory Reporting Medical Condition Form completion (K035) ($36.25)
  - – CCAC Referral Form (K070) ($31.75)

Dementia – Now what?

- Secondary prevention – minimizing the morbidity of dementia in the community

  – Regular monitoring to track the following commonly associated conditions:

    Falls

    Delirium

    Depression

Falls and Dementia

- Annual incidence of falls in dementia patients approx. 40-60% (roughly double)
- Serious injury more common, prognosis worse
- Similar risk factors as cognitively intact elders, but special considerations:
  - Gait and balance worse d/t CNS dysfunction
  - Impaired processing of environmental cues
  - (nighttime) wandering/agitation increases risk
  - Communication worsens and enhances risk as disease progresses
  - Psychotropic med use doubles risk of falling

Strategies to Prevent Falls

- Multi-factorial interventions (e.g. at Day Hospitals) to reduce falls risk may not reduce risk for those with significant cognitive decline
- Important to consider individual capabilities/needs/risk ; tailor intervention
- Environmental hazards and caregiver education regarding safety become more important
- Maintain physical fitness to tolerance/ability
- Review and minimize psychotropic meds
- Avoid physical restraints

Preventing Delirium

- Dementia patients are at high risk for delirium
  - Helpful to establish a baseline of patient's function/ abilities – record baseline MMSE score at this time
  - Look for worsening confusion/agitation
  - Monitor closely during medication additions/changes
  - CAM screening tool is helpful to detect delirium

Preventing Delirium

- Add Dementia to Cumulative patient profile, and highlight diagnosis on admission to acute care esp surgical services, and any referrals
- Consider risk of delirium post operatively with planned elective surgeries (risk/benefit)
- Review medications regularly and eliminate medications without clear indication or benefit
- Hospitalized patients – watch hydration, bowels, minimize antipsychotics/narcotics, mobilize early and provide frequent orientation cues (clock/calendar)
- Optimize treatment of comorbid illnesses

In Conclusion

- Cognitive change = geriatric syndrome
- Etiology often multifactorial
- Initial assessment should always consider the 3 D's:
  - Depression
  - Delirium
  - Dementia
- Consistently including screening questions for all 3 D's in initial interview is important:
  - For depression, MSIGECAPS
  - For delirium, CAM
  - For dementia, 5 A's, history of capability with higher-level IADLs (driving, finances, cooking)
- Work-up and management of cognitive change will take place over multiple visits

In Conclusion

- Patients with dementia are at increased risk for:
  - Falls
  - Delirium
  - Depression
- Education, prevention, and non-pharmacologic interventions are important in maintaining health and well-being