Cross-training session: Vulnerabilities associated with aging: how to identify them and obtain help

November 27th 2015

DEMENTIA DISORDERS, MENTAL HEALTH CARE AND ADDICTION:

DEMENTIA COMPONENT

NADINE LARENTE MD

Defining dementia

According to the DSM-5: Major Neurocognitive Disorder

A) **Evidence of cognitive decline within one or more domains** (complex attention, executive function, learning and memory, language, perceptual and motor abilities, social cognitive abilities)

1)Changes noted by patients, their family or health care professional

2) Cognitive impairment assessed by standardized testing

Major Neurocognitive Disorder -continued

B) Functional impairment (need of minimum assistance on ADLs)

C) Cognitive impairment is not secondary to delirium

D) Cognitive impairment is not secondary to other health problem

Prevalence of dementia

According to data from the Canadian longitudinal study on aging:

Approximately 8% Canadians aged 65 and over have dementia. Prevalence increases with age, from 2% for those aged 65-74, to 11% for those aged 75-84 and 35% for older adults aged 85 and over.

Prevalence of minor cognitive disorders are 50% in older adults with more than 85 years.

Mr. A.

Eighty-one year old male, referred following hospitalization due to results from cognitive assessment.

Initial cognitive disorder (mnesic predominance) and progressing within three years.

Tried Aricept within the last 2-3 years, stopped because of digestive intolerance.

Hospitalized due to pneumonia/influenza: delirium with cognitive sequelae.

Mr. A.: medical and surgical history

- COPD
- Obstructive sleep apnea (C-PAP- difficulty to adjust to mask)
- HBP
- DMII
- Chronic AF
- CAD (PAC 2001) ischemic cardiomyopathy LVEF 30-35% (2013)
- Dyslipidemia
- Osteoporosis fractures (# T6)
- Osteoarthritis
- Diverticulosis
- Gastritis 2013
- Pulmonary nodule (radiology follow-up)

Mr. A.: medication list and examination

- Tiotropium 18mcg caps. die
- Salmeterol 50mcg 1 inh. Q12h
- Fluticasone 250mcg 1 inh. BID
- Apixaban 2.5mg BID
- Metoprolol 50mg BID
- Rosuvastatin 20mg die
- Telmisartan 80mg die
- AAS 80mg die
- Citalopram 20mg die
- Furosemide 40mg die
- Pantoprazole 40mg die
- Metformine 850mg BID

Cerebral CT scan: severe leukoaraiosis. Old stroke in the basal ganglia.

Mr. A: level of functioning

Mr. A. is apathetic in general. He has very low initiative. He has the tendency to sleep a lot during the day and badly sleeps at night time. He has difficulty to adjust and keep his C-PAP during the night. All day long he watches TV or looks at pictures. However, he is unable to concentrate or remember what he watches on TV. He does not speak a lot and does not participate in conversations. He eats alone because he cooks himself. However, he needs stimulation because his appetite is low. He is apraxic while dressing and needs help to take a shower. He often refuses to take a shower, as he claims to be very tired. He has urinary incontinence and wears pull-ups. He sometimes has stool incontinence. His wife cannot leave him on his own because he has lost the reflex to use the phone if necessary. He does not participate in any household activity.

Mr. A.: cognitive assessment

During the interview, the patient appears very passive. He lets his wife to answer on his place. Once questioned, he coherently responds to questions but his memories on personal history are deficient, particularly those related to dates and details. The MMSE was administered. He scored a 23/30. Deficits were noted especially on aspects of attention and mnesic memory (0/3). He equally presents language deficits : fluidity reduction, presents lack of words, nominal aphasia. He perseverates occasionally.

Diagnostic impression

- The evaluation suggests a major neurocognitive disorder of cardiovascular etiology (moderate vascular dementia) and secondary to obstructive sleep apnea. Delirium is resolved but has left sequelae. The involvement of executive function is particularly marked as observed by functional impairment.
- Testing equally suggests the possibility of orthostatic hypotension taking into account the marked acceleration of pulse in the Orto station.

Recommendations

- Reference to CLSC to help ADLs, needs assessment, psycho-social follow-up
- First link to Alzheimer`s Society
- Monitor orthostatic VS.: decrease Rx as needed
- Revise C-PAP mask
- Reduce citalopram and stop if anything changes (follow up anxiety and depression Sx)
- Stop driving

Dementia and comorbidities

LINKS BETWEEN COGNITIVE DISORDERS AND CHRONIC ILLNESS

Chronic illness associated to cognitive disorders

COPD

Sleep pathologies

Cardiac pathologies, including cardiac insufficiency

DMII

CRI

Renal insufficiency

HBP-OHT

Etc.

Links between cognitive disorders and chronic illness

One study shows the link between chronic illness and cognitive disorders (MCI and dementia). The relative risk is of 1.6 for patients suffering 4 or more chronic pathologies.

Vassilaki, JAGS 2015 63: 1783-1790

Links between cognitive disorders and chronic illness

Cognitive impairment complicates the management of chronic illness.

Most management models are designed for patients with a single condition.

Australia proposes management programs for various chronic illnesses in patients with cognitive impairment: HIV, DMII, cardiac illness and cerebrovascular.

Mr. B.

Eighty-one year old male followed by psychiatry since last year for a diagnosis of major depression. Depressive symptoms like sadness, crying, negative thinking, regrets and episodes of discouragement are associated to a lack of energy, anxiety symptoms (especially anxious anticipation emerging from events out of his regular routine), multiple somatic complaints and mild cognitive impairment.

Mr. B.

After several years, he has noticed insidious cognitive decline : concentration difficulties, mild forgetfulness, casual lack of words. He has reported to never have forgotten anything important but has to note everything obsessively. Denies any functional decline. He manages his investments and retirement funds. Takes his BP and his medications without forgetting. He drives his car.

Medical and surgical history

- Major depression under treatment (history of depression upon retirement)
- Long history of generalized anxiety
- HBP
- Micro-vascular angina? History macro-vascular
- Chronic pain on left scapula
- Dyslipidemia
- Benign prostatic hyperplasia and overactive bladder (S\P RTU-P 1990)
- Repeated cystitis

Medical and surgical history

- Lumbar canal stenosis
- Gastroesophageal reflux
- Sympathetic dystrophy left foot reflex 2008
- Dupuytren left hand surgery (1997 and 2000), right hand (2001), left foot (2007)
- Bilateral cataract surgeries 2011
- Laparoscopic cholecystectomy 1991
- Polyps colon resections 2001, 2014
- Urolithiasis

Medication list

1) Atorvastatin 40mg die
2) Imdur 30mg HS- AM since June 9th
3) Amlodipine 2.5mg die
4) Valsartan 80mg die- 40mg die since June 9th
5) Nitro PRN
6) Myrbetriq 50mg HS
7) Tamsulosin CR 0.4mg BID
8) Amitriptyline 10mg HS (for bladder)
9) Citalopram 20mg die
10) Trazodone 50mg HS
11) Lorazepam 1 mg- completely weaned at the end of May
12) Pantoprazole 40mg BID

Medication list

13) Misoprostol 200mg BID
14) Diovol PRN
15) Acetaminophen 1g TID
16) Voltaren Gel PRN
17) Hydromorphone 1mg TID
18) Durela 200mg die (tramadol ER)
19) Ultram50mg PRN (tramadol)
20) Vitamin B1 100mg die
21) Cal-VitD 500mg-400UI 1 co die
22) Sennosides 8.6 mEq 2co BID
23) Docusate 100mg die PRN

Cognitive assessment

- During the examination, deficits on concentration, language (uncommon phonemic paraphasias), memory, spatial orientation and 3D construction praxis were noted.
- Memory on important recent events is preserved.
- The MOCA was administered. Mr. B scored 22/30 (2/5 on recall).

Neuro examination

- PERLA, extra comprehensive eye movements
- Facial symmetry
- No slight tremors but greater gear was noted on the left wrist compared to the right wrist
- Slightly increased tonus
- Normal and symmetrical reflexes
- Normal strength
- Negative Romberg
- Slight precaution on gait–reflexes
  Slight diminished protection of balance

Vital signs

	BP	Pulse
Lying	133/73	56
Sitting	106/65	65
Standing 1min.	71/41 (dizziness)	70
Standing 2min.	84/55	73
Standing 4min.	90/59	72

Rx list after optimisation

1) Atorvastatin 10mg die
2) Amlodipine 2.5mg HS
3) Nitro PRN
4) Myrbetriq 50mg HS
5) Citalopram 20mg die
6) Pantoprazole 40mg die
7) Diovol PRN (rarely taken)
8) Acetaminophen 1g TID (rarely taken)
9) Voltaren Gel PRN
10) Hydromorphone 1mg TID PRN
11) Multivitamine 1 co die
12) Sennosides 8.6 mEq 2co BID PRN

Mrs. C.

She presents a long history of anxiety disorders and takes medication since she was 35. During several years, large amounts of medication was prescribed to control chronic pain and anxiety, she was abusing alcohol and over the counter medication. Between 2008 and 2012, she had several episodes of inexplicable loss of conscience, for which the investigation was negative. During this same period, she has frequently relapsed without severe consequences.

Mrs. C.

In 2013, Mrs. C presented a head trauma as a result of a fall. From this moment, her husband was able to control her alcohol intake to maximum one beer per day. She still takes over the counter medication: analgesics, antihistamine type *sleep aids*, muscle relaxants. Sometimes, her husband gives her vitamins in place of analgesics and she does not notice.

Mrs. C.

Since 2013, her cognitive level gradually deteriorates. She presents important concentration difficulties, disorientation and her recent memory is very compromised.

Cognitive disorders fluctuate, possibly influenced by her use of medication.

She can become very obstinate, becomes aggressive, makes accusations and refuses to collaborate. She presents occasional panic disorders. She occasionally complains about pain but this does not longer prevail in her presentation.

Mrs. C.

Mrs. C. needs a lot of coaching and stimulation for her personal hygiene and nutrition. She got lost a few times in her neighborhood and must be accompanied back to her house, one time by the police. Not long before her visit, she has made a scene to her husband and became aggressive in a restaurant.

Mrs. C. denies any cognitive disorder, thinks she can live on her own and does not think that she takes too much medication.

Medical and surgical history

- HBP
- Stroke X2 (left hemisphere) in 2004 and2008
- Long history of generalized anxiety
- Depression
- Asthma
- Lumbar chronic pain
- Facet osteoarthritis and degenerative changes of the cervical spine with severe foraminal stenosis on C5-C6 and C6-C7
- Fall over ice in 2013 : multiple facial fractures and small intra-cranial hemorrhage at the level of front top right white matter

Medication list

- Buspirone 10mg BID
- Gabapentin 600mg BID
- Clonazepam 2mg BID
- Rhoxal-orphenadrine (norflex) 100mg die
- Citallopram 20mg die
- Plavix 75mg die
- Amlodipine 2.5mg die
- Singulair 10mg die
- Salbutamol
- Many Rx without prescription : 222. Sleep aids, etc.

Cognitive assessment

- In the examination, concentration and mostly memory deficits were noted.
- The MMSE was administered. Mrs. C scored 16/30.
- She is not self-critic of her deficits and presents significant judgement impairments. She easily becomes paranoid and aggressive.

Diagnostic impression

- The evaluation suggests a **Major Neurocognitive Disorder (dementia)**, of probably mixed etiology (possibly of Alzheimer type, vascular, history of alcohol abuse and secondary to substance abuse). The evaluation also suggests under-treated **arterial hypertension.**
- The patient is currently **unfit to take care of herself and property.**

Medication associated with cognitive disorders

- Sedatives-hypnotics
- Antidepressants
- Antipsychotics
- Antihypertensive
- Anticonvulsants
- Analgesics
- Anticholinergics
- Etc.

Cognitive disorders and polypharmacy

A population study shows the association between the number of medication and dementia:

More than 10 Rx = O.R. 1.56

Mrs. D.

Ninety-one year old female, lives at her son's residence and family.

Primary diagnosis:

- Major neurocognitive disorder (dementia), of probable vascular etiology, advanced
- Behavioural and psychological disorders associated to dementia : **severe** insomnia, anxiety and marked perseveration
- Gait difficulties associated to dementia
- Severe deficiency of vitamin B12
- Care-giver burden

Medication

- Mirtazapine: no effect
- Olanzapine: 10mg HS : effective for sleep but not too effective during the day.

Follow-up visit

Urinary retention >800 cc

Olanzapine replaced by Clonazepam 1.5mg HS

Mrs. E.

Eighty-four year old widow female (since march 23rd 2011). Her husband had a stroke and was under hemodialysis. Mrs. C had taken care of him for a long time.

Since 2012 she lives in a residence for semi-autonomous people but receives little service. She was hospitalized from the 7th to the 12th of August 2015 for a rapid atrial fibrillation.

Mrs. E.

She has been described as someone who is always anxious. She also has tendency to preoccupy for any reason. She has also said she never has a good sleep. Since 2009, many medications were used to control her insomnia, resulting in marked increases of generalized anxiety. Despite medication, within the last 3 years, her relatively previously controlled anxiety has become increasingly pervasive.

Mrs. E.

The patient has the feeling of not having any goals in her life and feels useless. She may have passive wishes to die. She says she sleeps a total of 5 hours between 20-21h and 1-2h and wakes up in the middle of the night to have lunch and finds the time long thereafter.

Mrs. E.

During her hospitalization, her metabolic balance was negative except of a light to moderate hyponatremia (128) which was corrected (135). Atrial fibrillation was rapidly corrected by increasing Cardizem. The brain CT scan presented no particularities.

Exam

Her MMSE score was 24/30 and the MOCA score was 19/30. Memory was slightly compromised (2/3 et 3/5). Deficits were found in regards of visuo-spatial organisation, executive functioning and concentration). The examination revealed light oral dyskinesia and severe akathisia.

List of tested medication

Lyrica (ad 2015), Abilify (2012-2013), Clomipramine (2014), Doxépine (2011-2014), Hydroxysine (2011-2012), Methoprazine until dosage of 50mg (2014-2015), Oxazepam (2009, 2011-2012), Ativan (2015), Citalopram (2006-2008 et 2011-2012, 2014-2015), Cymbalta (2012), Alprazolam (2011-2015), Quetiapine(2011-2012,2014), Olanzapine (2013-2014), Trazodone(2009-2014), Zopiclone(2009-2012, 2015), Lorazepam (2012, 2015), Mirtazapine (2011-2014), Risperidone (2012), Lithium (2014), Desipramine (2015).

At the moment of her hospitalization the patient only took Ativan (0.25mg BID and 1.5mg HS).

Diagnostic impression

- Major neurocognitive disorder, of probable mixed origin, with predominant frontal or pseudo-frontal compromise .
- Generalized anxiety, exacerbated in the context of cognitive impairment. Probable element of perseveration.
- Probable secondary akathisia due to medication. The use of **Cardizem** may contribute to this.
- Long history of insomnia, less tolerated since the death of husband.
- Controlled atrial fibrillation with ventricular response
- Drug addictive behaviour due to medication use

Follow-up

- Ativan 0.25 mg AM and 0.75 mg HS
- Metoprolol 37.5mg BID
- Mirtazapine 7.5mg HS
- Synthroid 0.05mg die
- ECASA 80mg die
- Vitamin D 10 000 UI 1 time per week

Cardizem replaced by metoprolol

Follow-up

- Resolved akathisia
- Less anxious
- Light persistent (negative) depressive Sx
- Lack of initiative, apathy and persistent lack of interest
- Idem cognition
- Still complains of insomnia

Follow-up

- Hospitalized due to stroke with light sequelae
- Short-term delirium
- Exacerbated anxiety and akathisia at the end of hospitalization
- Ativan was not given regularly and Cardizem had been taken