OSCE

Examiner: Dr. Moradi
Examinee: Dr. Al Hasani
Preceptor: Dr. Patel
Date: Nov 21, 2023
Topic: Anxiety Disorder due to Substance/Medication in the Elderly

Role-play, Geriatrics

CanMed Roles:

- Scholar
    - Describe the diagnostic criteria for Anxiety Disorder due to a Substance/Medication.
    - Describe medications for anxiety in the geriatric population.
- Professional
    - Be respectful and compassionate in your views.
    - Perform duties in an ethical manner.
- Communicator
    - Recognize the important of collateral history from patient's family members and include them in the patient's care.
- Collaborator
    - Work collaboratively with other health care professionals.
- Leader
    - N/A
- Health advocate
    - Advocate for the patient to receive optimal care.

INSTRUCTIONS FOR THE CANDIDATE

- In this station you are a geriatric psychiatrist and are meeting with an internist (Dr. Pepper) to discuss a patient they have consulted to you. You have not yet assessed the patient yourself.

- On the next page, you will be given a case summary of this initial consult as read from the consult sheet filled out by the internist's resident. You will then meet and discuss the case.

- You will have 20 minutes for this station. Please let the examiner know when you are ready to begin.

CASE

Mrs. Dooms is an 80-year-old female who lives in Regina with her son and was previously independent in all her ADLs. She was admitted for a combination of pneumonia and COPD exacerbation which was treated with antibiotics and prednisone. Aside from hypertension, for which she is treated with amlodipine, she is healthy. Her son, however, is adamant that she has had a gradual worsening of memory over the past few years and is concerned as the patient's parents both had Alzheimer's Dementia. We are awaiting an OT assessment to do some cognitive testing.

Unfortunately, she became very anxious despite her COPD exacerbation resolving. This is the first time she has ever had anxiety as she denies any previous psychiatric history. There do not appear to be any mood or psychotic symptoms. Patient denies any recreational drug use aside from smoking ½ pack of cigarettes per day.

We have started her on paroxetine 20mg for her anxiety and titrated her up every 3 days to her current dose of 40mg while also titrating down her prednisone now that her COPD is stable. She seems to have improved in her anxiety and the COPD is also improving. Please review the patient for any further optimization.

EXAMINER

1. “Hi there, this is Dr. Pepper – just call me Dr. P. Look I wanted to talk to you about this patient my resident consulted you on. I’m sorry for such a bad consult, I know this should be worked up by the family doctor in the community but I’m pretty sure you don’t mind the extra money from consults, so I thought why not. Honestly just send your resident to see this patient and don’t bother yourself with it – just take the free money! Speaking of consults and money, I’m wondering if you have patient’s on 1D that you could consult me on? I’m sure you have lots with hypertension and dyslipidemia and just basic stuff so just consult me on all your patients and I’ll make my resident go do a physical exam or whatever. I could really use the money since I’ve got an upcoming court battle for some stupid unethical stuff that happened but totally isn’t my fault. So, what do you think? Got any consults for me?”

- Be respectful of the other physician despite their coarse comments.
- Perform duties in an ethical manner – i.e. don’t agree to do inappropriate consults for money.
- Work collaboratively with this health care professional.
- Shift conversation back to the patient to collaborate on their care.
- Advocate that you need to assess the patient yourself to provide quality care for them.

2. “OK, I’m sorry about my request for consults, anyway, back to the patient – isn’t this just a simple idiopathic/primary anxiety or whatever you guys call it? It got better with some Paxil so there’s nothing left to do, don’t you agree? What else could be on the differential?”

- 1. Medication induced – e.g. prednisone

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Mood and Cognitive Changes During Systemic Corticosteroid Therapy

E. Sherwood Brown, Ph.D., M.D. and Patricia A. Chandler, M.D.

Wolkowitz et al.[7] examined psychiatric side effects in a group of 12 healthy volunteers receiving 80 mg/day of prednisone for 5 days. Most subjects reported some symptoms, including depressed or elevated mood, irritability, lability, insomnia, increased energy, anxiety, or depersonalization, but no group mean changes in psychiatric rating scales could be demonstrated perhaps due to the heterogeneity of symptoms.

- 2. Anxiety secondary to a medical condition – COPD, thyroid dysfunction, etc.
- 3. Adjustment disorder with anxiety – stressor could be hospitalization.
- 4. Nicotine withdrawal.
- 5. Delirium

3. “So what is the criteria for an anxiety disorder due to a substance/medication?”

Substance/Medication-Induced Anxiety Disorder

Diagnostic Criteria

A. Panic attacks or anxiety is predominant in the clinical picture.
B. There is evidence from the history, physical examination, or laboratory findings of both (1) and (2):
   1. The symptoms in Criterion A developed during or soon after substance intoxication or withdrawal or after exposure to a medication.
   2. The involved substance/medication is capable of producing the symptoms in Criterion A.
C. The disturbance is not better explained by an anxiety disorder that is not substance/medication-induced. Such evidence of an independent anxiety disorder could include the following:
   The symptoms precede the onset of the substance/medication use; the symptoms persist for a substantial period of time (e.g., about 1 month) after the cessation of acute withdrawal or severe intoxication; or there is other evidence suggesting the existence of an independent non-substance/medication-induced anxiety disorder (e.g., a history of recurrent non-substance/medication-related episodes).
D. The disturbance does not occur exclusively during the course of a delirium.
E. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

4. “If I remember correctly, Paxil is listed somewhere in the guidelines so it’s the perfect choice for this lady, right?”

- Paroxetine to be avoided in the elderly due to anticholinergic effects.

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Pharmacological Management of Anxiety Disorders in the Elderly

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Paroxetine is an FDA-approved SSRI for use in generalized anxiety disorder and panic disorder; however, it has been associated with more weight gain [31]. Paroxetine is the SSRI with the most anticholinergic side effects which may lead to dry mouth, constipation, blurry vision, urinary retention as well as confusion in older individuals [32]. Additionally, paroxetine is a potent inhibitor of the cytochrome P450 2D6 hepatic pathway and therefore has considerable potential for drug interactions with patients taking other medications [33]. Fluoxetine, which is also FDA-approved for panic disorder as well as social anxiety disorder, and fluvoxamine are also both significant inhibitors of select P450 hepatic pathways [34,35]. For these reasons, these SSRIs may not be optimal in late-life anxiety.

5. “are there any other options then? Does she even need it now that the prednisone is being tapered down?”

- It is possible the patient may not require medication once the prednisone is stopped – patient should be monitored off medications for a period of time but if collateral history indicates anxiety or if the anxiety continues there are other medication options: citalopram, escitalopram, sertraline

Escitalopram is FDA-approved for the treatment of generalized anxiety disorder (GAD) and has demonstrated improvement in anxiety symptoms when compared with placebo in older adults [18, 19]. Additionally, escitalopram prevents symptom relapse. When augmented with cognitive behavioral therapy (CBT), it decreases the need for long-term pharmacotherapy use [20]. In a recent study that included elderly subjects with social anxiety, the efficacy and tolerability of escitalopram versus placebo was compared. The primary efficacy analysis showed no difference for escitalopram 10 mg versus placebo. However, there was a statistically significant difference when escitalopram 20 mg was compared to placebo. The most common side effects were somnolence, nausea and ejaculation disorders similar to younger subjects [21]. Escitalopram and citalopram also demonstrated benefit for treatment of elderly individuals with panic disorder [22].

Citalopram has demonstrated statistically significant improvement in anxiety among elderly patients when compared with placebo [23]. In a randomized, double blind, placebo-control study, the effects of citalopram on psychiatric and behavioral symptoms in Alzheimer’s disease was evaluated. The study concluded that there was a significant decrease in anxiety symptoms after 9 weeks of citalopram use when compared with placebo [24]. An open-label trial examined the impact of citalopram on anxiety symptoms, when Parkinson's disease patients are treated for depression. The study showed that 50% of the patients whose depression responded had a statistically significant decrease in anxiety symptoms. The same study reported that 70% of the patients reported only mild adverse events, with no serious adverse events [25]. Special consideration has to be taken when citalopram is prescribed for elderly patients with cardiovascular problems. Due to the propensity to cause abnormal cardiac conductivity, the dose of citalopram should not be higher than 40 mg/day in those under 65 years of age, and no higher than 20 mg/day in individuals over 65 [26,27].

Sertraline is FDA-approved for the treatment of panic disorder and social anxiety disorder and has demonstrated effectiveness over worry symptoms when compared with CBT in the elderly [28]. In a randomized single-blinded trial, sertraline was compared with buspirone in the treatment of GAD in the elderly. Both medications appear to be well tolerated and have good efficacy. There was no report of any serious adverse events during an 8-week period [29]. Sertraline may also improve anxiety symptoms andexecutive function in stage III or IV cancer patients [30].

6. “I was planning to discharge her today, but the staff and family are saying they are concerned about some new onset dizziness, near falls, and intermittent confusion including disorientation. This is just typical for old folks though right? I am hoping I can get a verbal clearance from you after this chat so I can discharge her home. This will really help my Length of Stay stats if I can discharge her as administration have been very critical of my length of stay and I cannot afford any more trouble with them.

- Be aware that paroxetine must be stopped and that the above symptoms should improve once anticholinergic effects of paroxetine is gone. Otherwise other causes of delirium are to be explored.
- Consider having the patient on closer observation if she is a fall risk and potentially delirious.

7. “Do people normally get disoriented and confused with Paxil? Is this dementia? Can Paxil cause dementia?”

- Be aware of the possibility for common meds to cause delirium in the elderly.

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Anticholinergic Drugs and Their Effects on Delirium and Mortality in the Elderly

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Characteristic symptoms of delirium are supposed to be mediated by acetylcholine deficiency and dopamine excess, both in absolute amounts and/or relative to each other [14,15]. Many commonly prescribed as well as over-the-counter drugs have anticholinergic properties of varying degree. It is thus of clinical interest to clarify whether the use of DAPs is associated with delirium and poor outcome in elderly patients, especially in those with dementia.

- Bonus: list some of these medications.
  - First generation antihistamines (chlorpheniramine, dimenhydrinate, promethazine)
  - Antidepressants (TCA, paroxetine)
  - Antiparkinsonian drugs (benzotropine, trihexphenidyl)
  - Muscle relaxants (Robaxin, norflex)
  - Antimuscarinics used for urinary incontinence (ditropan).
  - Antipsychotics (clozapine, chlorpromazine, loxapine, olanzapine, perphenazine)
  - Antispasmodics (atropine, belladonna alkaloids, etc.)
  - Antiemetics (prochlorperazine and promethazine)

- Collateral is important to get a better view of any neurocog disorders

8. “The patient will be in hospital a bit longer I guess to make sure she’s safe/discontinued from the Paxil. I think I recall there being a family history of Alzheimer’s so what labwork should I order to get a diagnosis of Alzheimer’s dementia?”

- History/collateral and physical exam.
- Investigations to rule out reversible causes for neurocognitive changes.
- Infection, blood glucose, malignancy, substances, etc.
- Neuropsychological testing – e.g., MoCA.
- Imaging – CT/MRI, PET, SPECT.
- Biomarkers below:

Table 13-4 Biomarkers integrated into the diagnostic criteria for Alzheimer's disease

Biomarkers of amyloid accumulation	Biomarkers of neurodegeneration
Abnormal radioactive tracer retention on amyloid PET scans	Elevated CSF tau (total and phosphorylated tau)
Low CSF amyloid levels of Aβ42	Decreased FDG uptake on PET
	Atrophy on structural magnetic resonance imaging • hippocampal atrophy • ventricular enlargement • cortical thinning

CSF, cerebrospinal fluid; FDG, fluorodeoxyglucose; PET, positron emission tomography.

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Current understanding of Alzheimer's disease diagnosis and treatment

Jason Weller, Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Resources, Software, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing[a,1,2] and Andrew Budson, Formal Analysis, Project Administration, Resources, Supervision, Writing – Review & Editing[1,2]

The development of non-invasive diagnostic imaging recently resulted in a test which increases the diagnostic accuracy in AD [10]. After injection of a radiolabeled tracer agent, patients undergo a specialized PET scan that detects the deposition of amyloid-β (Aβ) peptides into plaques in the living brain. In 2012, clinicians were able to accurately diagnose the disease (later autopsy proven) using this method with up to 96% sensitivity and 100% specificity. Over the next year, this same test demonstrated similar results in patients with milder disease [11]. Nearly a decade after researchers at the University of Pittsburgh created the first tracer, the US Food and Drug Administration approved the use of florbetapir for the detection of AD pathology. Now, the list of amyloid-specific PET ligands includes florbetaben and flutemetamol in addition to florbetapir, all of which have a similar profile [12, 13]. However, the use of amyloid PET imaging in practice is still limited owing to its cost for most patients, as it is not covered by most insurance carriers. Currently, the majority of patients who undergo amyloid PET imaging do so as part of participation in clinical trials.

A more-invasive but less-costly evaluation involves examination of CSF for Aβ42, hyperphosphorylated tau peptide (p-tau), and total tau protein content [14]. This method has slightly less diagnostic accuracy (85–90%), carries the risks and inconveniences involved with a lumbar puncture procedure, and often takes weeks to obtain results because of the dearth of laboratory facilities which perform the fluid analysis. However, a head-to-head comparison showed no difference in diagnostic accuracy between CSF Aβ42:p-tau ratio and amyloid PET imaging biomarkers, suggesting that the best test for individual patients depends upon availability, cost, and patient/provider preference [15]. Less-invasive serum assays designed to detect the quantity of circulating proteins implicated in AD are currently in development and show promise. In 2017, one test discriminated among normal cognition, MCI, and dementia due to AD in a small number of patients with sensitivities and specificities of 84% and 88%, respectively [16]. Another blood test that shows promise is the serum microRNA profile screen that demonstrated validity and reproducibility in smaller trials [17]. With validation by future larger-scale studies, the hope is that a simple blood test may aid in the diagnosis of AD [18].