Assessing the Altered Mental Status of an Elderly Patient

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Case Overview

Depression is a disease that is highly prevalent in the geriatric population and disproportionately affects women. Elderly women who have chronic medical problems, especially multiple medical problems, are at an especially high risk for depression. Our elderly patient presented with altered mental status secondary to severe depression and pain and effectively illustrates these risk factors.

Patient History

LD, an 89 year-old female with a history of breast cancer, hypertension, multiple falls, and left hip surgery presented from the rehabilitation facility with altered mental status. Over the past three days, LD was noted to be intermittently agitated and lethargic. She had also been observed taking multiple acetaminophen pills in addition to her scheduled hydrocodone and acetaminophen. The morning of presentation, the patient was persistently more altered. At this point, her room was searched and there were three empty acetaminophen/ diphenhydramine bottles found.

On interview, the patient had no complaints. “I’m fine.” LD reported taking an acetaminophen/diphenhydramine combination pill in addition to her scheduled medications, but did not know the exact dosage. Initially she said she was taking these pills for her increased hip pain, but after further inquiry, she acknowledged worsening depression and said she wanted to die. She denied all significant co-ingestants, and there was no report of recent trauma.

Surgical History

- Mastectomy
- Appendectomy
- Cholecystectomy
- Left hip replacement

Current Medications

- Hydrocodone/ acetaminophen 5/500 PO every 6 hours as needed for pain
- Acetaminophen 1000 mg PO twice daily
- Metoprolol 50 mg PO twice daily
- Aspirin 81 mg PO once daily
- Cymbalta 60 mg PO once daily

- Zyprexa 2.5 mg PO each morning, 5 mg PO at bedtime

Vital Signs

- BP 151/68
- HR 98
- RR 20
- Oxygen 94% on RA
- Temperature 97.8

ED Course

The patient was found to have a positive acetaminophen level. Further, the history was suggestive of chronic acetaminophen overdose. The patient was started on N-acetylcysteine. In addition to her toxicologic work-up, she received a pelvis x-ray that showed a new right-sided inferior pubic ramus fracture and multiple old pelvic fractures. This was determined to be non-operative. She was admitted to the medicine service with psychiatry consult for severe depression, acetaminophen overdose, and pelvis fracture.

Physical Exam

On examination, LD was alert and mildly agitated. She was oriented to person and place only but had no focal neurologic deficits. She was uncooperative to further questioning. Her psychiatric exam was significant for continued suicidal ideation. The remainder of her exam was remarkable only for right-sided hip pain on palpation.

Pertinent Labs

- WBC: 7.9
- Hgb: 10.7
- Hct: 32.0
- Platelets: 451
- Glucose 106
- Na 138, K 4.1, Cl 106, CO2 24, BUN 14, Cr 0.80
- AST 16, ALT 14, ALP 107
- Total Bilirubin 0.6
- ASA < 10.0 mg/dl
- Acetaminophen 12 ug/ml
- Ethanol not detectable
- Urine toxicology screen: + for opiates and benzodiazepenes

Hospital Course

The patient received a full course of N-acetylcysteine but her liver enzymes did not become elevated. Her scheduled hydrocodone and acetaminophen were discontinued, and she was started on morphine and a fentanyl patch for pain from her hip fracture. LD's mental status rapidly improved as her pain was controlled, and by her second day in the hospital she was alert and oriented and back to her baseline.

For her depression and suicidal ideation, she was evaluated by the geriatric psychiatry service, who agreed with the assessment that LD's depression was closely associated with her pain. In addition to the pain management provided by the primary team, the psychiatry service adjusted her anti-depressant regimen. As her pain control was improved, so did her depression and suicidal ideation. Outpatient psychiatry follow-up was arranged at discharge. She was discharged back to her rehabilitation facility with an improved pain regimen and a plan for psychiatric follow-up.

Discussion

Depression is very prevalent in elderly people, and it disproportionately affects elderly women. Estimates of the prevalence of depression in the elderly presenting for medical care are as high as 27%.[1] It is clear that gender affects risk of depression as evidenced by one large meta-analysis showing that elderly women were 40% more likely to carry a diagnosis of depression when compared to men.[2] The lifetime risk of depression in women in the U.S. is over two times higher for women as compared to men.[3]

The diagnosis and treatment of depression in elderly patients is crucial, but some estimate that as low as twenty percent of depression cases in this population are treated.[2] Furthermore, we know that untreated depression leads to poor outcomes including higher rates of functional decline, lower quality of life, and even increased mortality.[4,5] Depression is also associated with higher rates of falls and fractures.[6]

The reason for the high prevalence of depression in elderly women is multi-faceted. One important contributor is chronic disease burden, specifically having multiple co-morbidities. Multimorbidity, or having two or more chronic diseases, affects more than half of those over sixty-five with some estimates in the ninety percent range.[7,8] Interestingly, multimorbidity is also more common in elderly women, and women are more likely to have chronic, non-fatal diseases such as osteoporosis.[8,9] One study reported that 80% of women over 80 years of age are affected by multimorbidity.[9] Those with chronic diseases and specifically meeting criteria for multimorbidity are more likely to become depressed especially if chronic pain is involved.[8] This may be related to the fact that pain is often undertreated in elderly patients especially those with significant cognitive impairment.[10]

Conclusion

These findings can be directly applied to our case. LD is an elderly woman with multiple risk factors for depression, namely her gender, her multiple chronic medical problems, and her acute on chronic pelvic pain. Providers should be aware of the risk factors for significant depression in this group and should recognize depression as a potential cause of altered mental status in elderly women. In order to mitigate the potential poor outcomes we must work to improve screening, diagnosis, and treatment of depression in this population.

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