Relapsing Late in Life: Opioid use disorder in a geriatric patient
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Outline

• Case presentation
• Epidemiology of opioid use/misuse in older adults
• Basics of methadone and buprenorphine
  • Pharmacology

Ms. H

• 74 year-old retired housecleaner
• Presented to primary care
  • For treatment of opioid use disorder (OUD)
• Past Medical History
  • OUD
  • Hepatitis C cirrhosis
  • Hepatocellular carcinoma
  • Hypertension
• Medications: None
Social History

- Daily user of intranasal heroin
  - Started at age 15
  - Sober for 20 years in her 40s-60s
  - Relapsed after a divorce in her 60s
- Socially isolated
  - Lives alone with her cat Ozzy
  - Neighbor checks on her regularly
  - Estranged daughter (surrogate decision maker)

Physical exam

- BMI: 17.3 kg/m² (Weight: 94lbs)
- Tearful when talking about her daughter
- Cachectic with temporal wasting
- Diffuse scabbed excoriations
  - Recent scabies infection
- Gait:
  - Walks bent over
  - Narrow-base (~4 inches)
  - Reasonably quick and stable

Epidemiology:
Opioid use and misuse in older adults
Nonmedical use and OUD

- Nonmedical use of prescription opioids in adults 65+
  - 2.2% last 12 months
  - 5.0% lifetime
- Diagnosed with OUD
  - 0.4% last 12 months
  - 0.5% lifetime
Med-assisted treatment for OUD

- Three FDA-approved medications
  - Buprenorphine
  - Methadone
  - Naltrexone
- Act on opioid receptors
  - Manage withdrawal (physiologic dependence)
  - Decrease psychological craving
- Slow onset, weaker effects - less likely to produce a “high”
  - Mildly reinforcing – improves treatment adherence
- Need to be continued indefinitely
  - Higher rates of abstinence with medication-assisted treatment than without

Bup: Mechanism of action

- Partial opioid agonist
  - Ceiling effect → low risk of respiratory depression
  - Very high affinity for mu receptor
  - Blocks effects of other opioids (e.g., heroin)
  - Can precipitate withdrawal
Bup: Pharmacodynamics/kinetics

- Long half-life
  - Average 37 hours
  - Range 20-73 hours
- Metabolized using CYP 3A4
- Mostly excreted fecally
  - Relatively safe with renal insufficiency
  - Hepatic impairment reduces clearance

Bup: Administration

- Route:
  - Sublingual
  - Buccal
  - Injection
  - Implant
- Given 1-3 times daily
- Commonly prescribed as combo bup/naloxone
  - Abuse deterrent
  - Naloxone bioavailable only with injection

Bup: Adverse reactions/warnings

- Constipation
- Sedation
- Respiratory depression (rare)
- Transaminitis
Bup: Drug interactions

- CNS depressants
  - Increase risk of sedation, respiratory depression
  - Particularly benzodiazepines, alcohol
- Anticholinergics
  - Increased risk of urinary retention, constipation
- Drugs than interact with the CYP 3A4 system
  - Inhibitors: May increase bup levels
  - Inducers: May decrease bup levels
  - Buprenorphine is a weak 3A4 inhibitor

CYP3A4 inducers/inhibitors

- Commonly-used inhibitors:
  - Azole antifungals
  - Macrolides
  - Nondihydropyridine calcium channel blockers
  - Protease inhibitors
  - Some antidepressants (e.g., fluoxetine, amitriptyline)
- Commonly-used inducers:
  - Phenobarbital
  - Carbamazepine
  - Phenytoin
  - Rifampin

Methadone

- Mechanism of action: full mu agonist
- Pharmacodynamics/kinetics:
  - Peak effect up to 3-5 days
  - Half life 22-24 hours (range 8-59 hours)
- Metabolized by CYP 3A4
- Administration:
  - Daily in OUD
  - Typical daily dose: 60-120mg
- Adverse reactions/warnings
  - Sedation/respiratory depression
  - QTc prolongation
Considerations in geriatrics

- Sedation
  - Avoid additional CNS depressants
  - Be cautious around methadone dose changes
- Respiratory depression/overdose
  - Avoid benzodiazepines
- CYP 3A4 inducers/inhibitors
  - Call pharmacist or bup/methadone prescriber
  - Talk to bup/methadone prescriber during preop

Ms. H: Clinical course

- Enrolled in primary care-based buprenorphine therapy
- Subjectively more robust
  - Gained 6lbs (5% body weight gain)
- Reunited with her daughter
- Maintained sobriety until death at age 76
  - GI bleed secondary to NSAID-induced PUD
References


Thank you and questions
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