Episode 61: The Opioid Crisis

On this episode: Dr. Jed Wolpaw and Dr. Shravani Durbhakula

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What is the opioid crisis in the United States?

- Current state of prescription drug and heroine abuse. Drug overdose is a leading cause of accidental death, most of which are unintentional. Prince, a famous singer, died in 2006 from an accidental overdose of fentanyl.

Why is this becoming such a big public health concern right now?

- The Centers for Disease Control and Prevention (CDC) estimates 91 Americans die daily from opioids.
- In 2016, opioid overdose more killed Americans than Vietnam and Iraq Wars combined.
- A 2013 study on the economic burden of opioid overdose is estimated at $78.5 billion.

Tell me more

- Heroin is not the most common cause.
- Opioids are classified into four categories:
    - Heroin
    - Natural and semisynthetic (Percocet, hydrocodone)
    - Methadone
    - Synthetic (excluding methadone) - fentanyl, tramadol
        - Most # of deaths: doubled since January 2016 to January 2017 from 10k → 20k

History

- Early 1990's
    - Prescription opioids mostly used for acute or cancer pain.
    - Studies began highlighting chronic, non-cancer pain, which led to patient advocacy, professional groups, and the government to take patient pain more seriously.
- 1996
    - American Pain Society presidential addressed "pain as fifth vital sign".
- 2001
    - This became a standard in Veterans Affairs hospitals and The Joint Commission (JCAHO).
- 2010
    - The US consume 83% of world oxycodone and 98% hydrocodone in the US.

So, how should we be measuring pain?

- American Medical Association does not recommend "pain as 5th vital sign", as this pushes more, maybe inappropriate, prescription of opioids.
- JCAHO standard still there.

What role have pharmaceutical companies played in this crisis?

- 1996
  - Purdue pharmaceuticals aggressively marketed oxycodone as 'not causing addiction'. FDA allowed this claim because the drug absorbed slowly, and the absence of immediate rush.
  - Launched promotional videos to ease fears about addiction to pain prescriptions. "Less than 1% will become addicted"
  - Physicians typically have 9 hours of pain education in medical school → possibly more prone to advertising.
- 2001
  - Oxycodone grossed $1billion in sales. Most frequently prescribed brand name med at that point.
- 2002
  - Reports about oxycodone overdose. In 2002, 2.8 million people who admit to use oxycodone for non-medical use. Compare to 1999, ~400,000 people
- Purdue investigated and eventually had to pay out $600 million in fines and settlements for fraudulent marketing.

Why is this a 'crisis'?

- 1999 – 2010: The White House called it crisis, which led to more prescription drug monitoring programs.

What are prescription drug monitoring programs?

- "provide health authorities timely information about prescribing and patient behaviors that contribute to the epidemic and facilitate a nimble and targeted response" - CDC

What is current political state of opioid crisis?

- December 2016
  - CDC Director Thomas Frieden said "America is awash in opioids; urgent action is critical"
- March 2017
  - Maryland Governor Larry Hogan declares crisis → new funding
- July 2017
  - FDA Commissioner Scott Gottlieb declares opioid addiction as "biggest crisis"
- October 26, 2017
  - President Trump declared "public health emergency"
- Results:
  - increased public awareness with aggressive opioid ad campaign
  - hired specialists
  - telemedicine for treatment in rural areas
  - require federally employed prescribers be trained
  - new initiative to develop non-opioid

    - block shipments of fentanyl
    - suspend current rule that Medicaid fund many drug-rehab facilities

What is the relationships between heroine abuse and prescription drug abuse?

- 3/4 of new heroin users started out with prescription pain killers.
    - increased availability, purity, lower cost
    - then switch to fentanyl
    - "gateway" to heroine usage
- According to Drug Enforcement Agency, opioid sales quadrupled from 1999 to 2010.

Who is at highest risk for addiction?

- 50% genetics
    - Thus, family history is very important question
        - "Do you have any family members with a history of addiction?"
- Age at exposure (younger)
- Already on psychotropic medications
- Non-Hispanic whites, Alaskan natives, American Indian
- Men more likely to die (gap closing)

How do you screen?

- Screener and Opioid Assessment for Patients with Pain-Revised (SAOPP-R)
- Opioid Risk Tool (ORT)
- Brief Risk Interview
- Few studies to evaluate diagnostic accuracy or real likelihood of predicting opioid abuse.

What kind of challenges do you face as a chronic pain physician?

- Patients come in with pain and positive MRI findings
- Patients on medication without strong evidence
    - Chronic low back pain
    - Not looking at long term outcomes (1+ year) in pain, function, quality of life
    - Placebo studies too short (12 weeks or less)

What if a patient is…

on benzodiazepines for anxiety or as muscle relaxants?

- Such as after spine surgery
- “We have other things available that won't put you into this risk.”

prescribed opioids inappropriately by another doctor?

- Down titrate. Use resources (pain psychologists, addiction services, inpatient treatment programs)

pregnant?

- Go get help! There is evidence for maternal outcomes

in pain and wants to cut down opioid prescription?

- Offer adjuvants
  - NSAID
  - Acetaminophen
  - Anticonvulsants
  - TCAs
  - SNRI [duloxetine]
- Inform of risks
  - NSAID - GI tract, renal, cardiac
  - Gabapentin - renal dosing
  - Duloxetine - hepatic function

What if a patient doesn't want any opioids?

- Depends on surgery and patient
  - Open AAA – probably need opioids
- Enhanced Recovery After Surgery protocols work!
  - Colorectal
  - Breast
  - Gynecologic
  - Pediatric
- Preop
  - Peripheral nerve block
  - Neuraxial procedures
  - Preventative analgesia
    - Acetaminophen
    - Gabapentin
    - Celecoxib
    - Ketamine / lidocaine infusion
    - IV magnesium
- Postop
  - Adjuvants
    - IV acetaminophen, Toradol until PO
  - Start with tramadol
  - Most providers will opioids, at least initially

What is methadone?

- Opioid used as part of drug detoxification and maintenance programs that should always be used in combination with behavioral therapy.
- Available in methadone maintenance treatment clinics
  - Stigmatized
  - Need to be monitored
  - different dosage
  - side effects like QT prolongation
- Alternative is Suboxone
  - buprenorphine + naloxone
  - difficult to find provider
  - Took stigma out of MMT clinics so individuals can go to their own PCP
  - Naloxone activated if you crush

How are opioids getting on the street?

- Combination of
  - Docs may be prescribing inappropriately
  - Patients may sell, or give to others

Where are opioids coming from?

- PCP ~50%
- Specialists: pain docs > surgery > PMR
- JAMA Surgery 2017
  - 67-92% of patients reported unused opioids. If not used, what's happening to these meds?

What about opioids after surgery?

- CDC: March 17, 2017 weekly M&M report
  - Risk factors for opioid addiction based on retrospective study on 1.2 million opioid naïve, cancer-free adults (2006-2015)
    - 1 in 3 are ↑ risk for opioid addiction
    - Each additional day of medications supplied starting with day 3
      - Transition to PO opioids
    - Sharpest increase at day 5, day 31
      - Day 1 - 6%
      - Day 8 - 13.5%
      - Day 31 - 30%
    - 2nd prescription or refill → 1 out of 7 on opioids 1 year later
    - Initial prescription is 10 or 30 day supply
    - Long-acting opioids

What are some non-pharmacologic interventions?

- Physical therapy, exercise
- Pain psychology, acupuncture, cognitive behavioral therapy
- Interventional therapies
  - epidural
  - nerve blocks
  - radiofrequency ablation (RFA)
  - stimulation / neuromodulation
  - latter more difficult to get covered by insurance

Why are these difficult to get covered by insurance?

- Some studies (such as the MINT trial) report RFA of medial branch for chronic low back pain originating from facet joint to not be effective.
  - Flaws in methodology
    - not blinded
    - questionable procedural methods (needle should be oriented in specific way)
  - Prompted debate
    - Should lumbar RFA continue to be reimbursed? For now, yes in Maryland.

So, when should we be prescribing opioids?

- Not as first line therapy
- Use CDC guidelines, such as
    - if expected risks for pain AND function anticipated to outweigh risks
    - combine with nonpharm and adjuvants
    - Individual risk assessments, never used alone
    - Opioid contract, urine drug screen
    - Check prescription drug monitoring programs
- Co-prescribe of naloxone just in case
- Lowest effective dose
- Don't prescribe with benzodiazepines → ↑ risk for fatal overdose
- Consider risk benefit ratio if increasing to > 50mg of morphine equivalents per day. Avoid > 90 morphine equivalents per day.

Do intraoperative opioids increase risk for opioid addiction?

- Does have potential for postop hyperalgesia - 3-8% reported
- Remifentanil infusions ↑ postop pain and morphine requirements
- Need more research on this topic

Given the number of postop opioids prescribed, can we change perioperative prescribing to help postop period?

- A&A 11/2017, UCLA conducted historical-prospective study of colorectal ERAS protocol
    - ERAS → ↑ opioid-free and multimodal analgesia
    - No impact on discharge opioid prescription practice despite
        - low discharge pain scores
        - no preop opioid use
        - low morphine equivalent consumption before discharge
- Issue?
    - Surgical teams need to change prescribing patterns. Already educating attendings. Need to trickle downstream to interns!!

Advice to physicians who want to combat this situation?

- Educate
- Explain risks to patients
    - Common side effects
        - constipation
        - nausea/vomiting
        - confusion
        - physical dependence
        - withdrawal
    - Dose-dependent increase risk of addiction and overdose
    - Endocrine dysfunction
    - Opioid-induced hyperalgesia
        - cause pain processing system to be hyperexcitable
        - creates state to cause more pain → will want more drugs

What is hyperalgesia?

- Neuroplastic changes in peripheral and central nervous systems causing sensitization of pro-nociceptive pathways.
- ↑ amount of pain experienced
- ↓ analgesic efficacy of subsequent use

What is the bottom-line?

- Need new research to close these gaps of understanding
- Make treatment accessible and not stigmatized
- Education for both patients and providers about opioids and safe prescribing
- If lessons aren't learned, we may face more problems on other medications, such as medical marijuana
- Evaluate literature and data before we prescribe

Questions

- Are we doing enough?
- Is federal government doing enough?
- Are we holding pharmaceutical companies accountable?