Random thoughts on Opioid Use Disorder and methamphetamine

Daniel A. Nauts, MD, FASAM
Effect of Opioid vs Nonopioid Medications on Pain-related Function

- Chronic back pain or hip or knee osteoarthritis pain
- Moderate to severe pain
- 244 randomized patients
- Opioids vs. acetaminophen or NSAID
- Opioids were not superior to non-opioids over 12 mos. JAMA 2018;319(9):872-882.
Non-cancer chronic opioid pain management

“If you don’t know how to land don’t take off!”
The US Burden of Disease Collaborators 1990-2016

- OUDs moved from 11\textsuperscript{th} to 7\textsuperscript{th} in disability adjusted life years
- OUDs moved from 52\textsuperscript{nd} to 15\textsuperscript{th} in years of life lost
Synthetic Opioids Implicated in Nearly Half of Opioid OD Deaths in US

- OD deaths nationwide 2010-2016
- Of 42,000 in 2016, 46% involved synthetic opioids
- 72,000 deaths 2017 ? 36,000 related to synthetics
- In 2010 only 14% involved synthetics
- 80% of deaths in 2016 involved alcohol or another drug
- NEED FOR MULTIPLE DOSES OF NALOXONE!
Naloxone rescue in MAT

- 244 patients on MAT
- Provided naloxone kits
- At 3 mos, 31 (12.7%) reported using the kits to reverse 38 overdoses
- Medpage Today, April 15, 2018
- Don’t forget CPR and AED training
Effects of Enhanced Services for Patients on Methadone Maintenance

- Wrap around services 70%
- Standard counseling 55%
- Meds only 30%

McClellan et al, JAMA 1993
Programs prescribing buprenorphine

- **Med management**: maintenance but no ongoing psychosocial programming.
- **Limited psychosocial**: provides case management and periodic 1:1 counseling.
- **Recovery-oriented**: full range of individual, group and family counseling, 12 step orientation, and case management.
**Urine Tox + opioids**

22 states, N of 20,972

<table>
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<th></th>
<th>Med mgmt only</th>
<th>Ltd PS</th>
<th>Rec oriented</th>
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<tr>
<td>5227 total</td>
<td>3390</td>
<td></td>
<td>11,343</td>
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<td>3047 +</td>
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<td>58%+</td>
<td>46%+</td>
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Dominion Diagnostics

Marc Galanter, MD ASAM, San Diego, 2018
MAT and Opioid Mortality
17568 OD survivors to MAT

- Decrease in opioid related mortality
  - 59% methadone
  - 38% buprenorphine
  - Both meds associated with a decrease in all cause mortality

- No association found between Naltrexone and mortality!

- Marc Larochelle, Annals of Internal Med, Aug 2018
Opioid Detox During Pregnancy Remains Inadvisable

- Data from 2000 women
- Significant risk of relapse 30-60%
- Imperative to provide information on the benefits of opioid agonist pharmacotherapy which is widely recommended over medically supervised withdrawal
- Advocate for universal availability of MAT for pregnant women
Terplan M et al. Obstet Gynecol 2018

Obstet Gynecol 2017; 130:488
Patient admitted to the hospital with heart attack...
- Told it’s her fault b/c of diet, stress, and tobacco use
- Advised to call a list of cardiologists/cath labs
- Told she can’t get ASA, or cholesterol medication until she sees a nutritionist first
- Sent home with a stern reminder to not have another MI
Continued

- Patient admitted to the hospital with endocarditis
- Told it’s her fault b/c of SUD
- Advised to call a list of treatment programs
- Told she can’t get addiction meds until she sees a counselor first
- Sent home with a stern reminder not to use drugs
A Patient

- Don’t hate the Addict
- Hate the disease
- Don’t hate the person
- Hate the behavior
- If it is hard to watch, imagine how hard it is to be living it
- MGH Bridges Program, ASAM 4/2018
Patient-Centered Opioid Addiction Treatment (P-COAT)

- Alternative Payment Model (APM)
- Collaboration of ASAM and AMA
dopamine

dopamine receptor
Transporters

- Brain’s chemical recyclers
- Located on the neuron that released the neurotransmitter and they bring them back into the cell that released them.
- Shuts off the signal between neurons.
Natural Rewards Elevate Dopamine Levels

**FOOD**

- Graph showing NAc shell dopamine levels over time.
- Empty Box and Feeding periods indicated.

% of Basal DA Output vs. Time (min)

Source: Di Chiara et al.

**SEX**

- Graph showing dopamine concentration (% Baseline) over time.
- Copulation frequency bar graph.
- Sample numbers and sample number frequency.

Source: Fiorino and Phillips
Effects of Drugs on Dopamine Release

Source: Shoblock and Sullivan; Di Chiara and Imperato
Dopamine Transporter Loss After Heavy Methamphetamine Use

Dependence of Verbal Memory on Striatal DAT

Interference recall

Number of words vs. Dopamine transporter (Bmax/Kd)

R = 0.70
p < 0.005

Delayed recall

Number of words vs. Dopamine transporter (Bmax/Kd)

R = 0.64
p < 0.01

Partial Recovery of Brain Dopamine Transporters in Methamphetamine (METH) Abuser After Protracted Abstinence

Gabapentinoids—”a wolf in sheep’s clothing”

- Approved 1993
- Partial seizures > 3yo
- 2002 post-herpetic neuralgia
- Never approved for diabetic neuropathy
- 85% prescriptions off label--$2 billion
- Gabapentin increased absorption with opioids
- Cognitive impairment with decreased renal function
- Withdrawal similar to alcohol and BZDs
- Cochrane reviews no evidence of benefit in chronic pain management
Misuse

- High doses IN and IV
- 2\textsuperscript{nd} most diverted med in prison, #1 is tramadol
- 1\% misuse in normal, 15-65\% misuse with SUD
- Gabapentinoids potentiates effect of methadone
  - Euphoria
  - Boost methadone and buprenorphine
    sedation/relaxation/calmness
  - Improve sociability
- OD uncommon alone but increases 49\% if on opioids
- Should they be on UDT? And MPDR?
Rate of HCV among women delivering at Pitt

- Increased by 60% over the 9 yr study period from 2006-2014
Hepatitis C-Exposed Infants Not Getting Adequate Screening

- 1000 infants born to mothers with HCV
- <1/3 infants received screening
- Guidelines recommend screening 18 mos or later to avoid false +
- Pitt Med Ctr 2006-2014 32% received well child care only 30% tested for HCV, 3/4ths optimal screening, 8% SHOWED EVIDENCE OF PERINATAL TRANSMISSION!!!