Drugs in the ER

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Disclaimer

These opinions and ideas are mine and do not represent the opinions or policies of HCMC or PPD.
What we see...

Special Care during 0500 rounds

MVC with extrication
Fall off a roof
Drugs in the ER

- Opioids
- THC
- Meth
- Cocaine
- PCP/LSD
- K2/Synthetics

Cocktail/grab bag du jour

Opioid Toxidrome
- Pinpoint pupils
- Respiratory depression
- CNS depression

Classic toxidromes are less common
Too Much or Too Little?

Opiate Withdrawal
- abdominal pain cramps
- goosebumps (cutis anserina)
- muscle cramps
- tachycardia
- mydriasis
- sweating (diaphoresis)
- "kicking the habit"

Synthetic Marijuana
- demonic hallucinations
- paranoia
- pounding headaches
- tremors
- heart attack
- renal failure
- tachycardia
- nausea
- seizures
- vomiting

Hennepin County Medical Center
ER Treatment

• Based on symptoms and presentation

• Not the drug

• Except specific ingestions:
  • Opioids
  • Tylenol
  • Beta blockers
ER Treatment Summarized

- If you’re up, we put you down.
- Our safety matters
- And let you metabolize to freedom.

- If you’re down, we wake you up.
- Your safety matters
- And let you metabolize to freedom.
Prehospital Treatment

- If they’re up, put them down for safety.
- Versed/Haldol/Ketamine
- If they’re down, wake them up.
- Bilateral jaw thrust
- BVM
- Narcan
3 Cases on a Spectrum
• 47 yo M…
• EMS called to C-store
• 25 people crowding around & fighting
• 1 guy unresponsive
• Bystanders report K2
K2

- Unresponsive en route
- Medics assisted ventilations
- Agitated shortly after arrival requiring sedation & 4-pt restraints
- Large work up:
  - CTs, labs, XRs, EKG
• BAL 0.323 but o/w negative work up
• Observed in ED for 3 hrs
• Discharged to the world
K2

• Simple case with no bad outcome
• But we don’t/can’t assume simple
• “Found down” = catastrophe until proven otherwise
• Neuro, cardiac, occult trauma, sepsis…
Recent K2 Uptick

• Usually agitated or down leading to 911
• Resolution en route
• Discharged quickly
• Rare complications (seizure, intubation)
Meth

• 26 yo M with h/o poly-substance abuse
• Stolen car, police chase, caught after 5 hrs
• Found supine by EMS next to the highway
• Unresponsive and fast HR
• Clenched jaw, no obvious trauma
“Found patient laying face down next to the highway in the custody of law enforcement.”
On arrival to the ER…
Temp of 107.5 (41.9 C)
Unresponsive, intubated
Cooled with wet towels and fans
Large work up…
Meth

- Lactate 12
- Metabolic acidosis
- Kidney failure
- Heart damage
- Rhabdomyolysis
- Ankle fracture
Meth

- Meth/amphetamines on U tox
- 1 week hospitalization
- Discharged to jail
- Follow up surgery scheduled
Meth

• Take aways:
  • Similar presentation but lots of bad things
  • Water & fans = effective cooling
Meth

• 30 yo M…unknown down time
• Found on sidewalk with empty liter of rum
• Afternoon, 80+ degrees, no wind
• Unconscious and unresponsive
• Shallow respirations
Meth

- Eyes open
- Dry skin & mucous membranes
- Felt hot to the touch
  - Axillary temp 109.1 (42.8 C)
- Wet towels and cold packs
Meth

- Deterioration en route
- Vomiting
- Clenched mouth
- Hypoxia
- Posturing
- Tx: nasal airway & suctioning
Meth

- Arrested on arrival to ER
- Copious coffee ground vomit
- CPR, intubation, IV access
- Cooled with wet towels and fans
- Cold water OG lavage
Meth

- BAL negative
- Metabolic acidosis (pH 7.1)
- Labs showed heart & kidney damage
- Case called at about 25 minutes
- Final temperature was 109.6 (43.1 C)
- Meth/amphetamines on autopsy
Meth

• A real person…

“…struggled with mental illness and addiction for many years. He tried many times to seek wellness and improve his situation. He attended and completed many treatment programs.”
Hyperthermia/Heat Illness

• Hyperthermia is not Fever
• Heat stroke is heat exhaustion with CNS dysfunction
  • Medical emergency
• Not defined by temp or sweat/no sweat
Hyperthermia Treatment

• Rapid cooling
• Water/wet towels and fans
• Supportive care
Hyperthermia

- >104 (40 C) = severe hyperthermia
- Evaporation is key to cooling
  - Less effective in high humidity (>75%)
  - Less effective when environment exceeds body temp
Hyperthermia

• >108 (42 C)
• Enzymes quit working
• Cytokine inflammatory response
• Heat shock proteins
• Increased metabolic rate
• Decreased vital organ blood flow
Questions?

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