Multi-Drug Use For the Astute Actuary

John F. White III, MD, MBA, FLMI, DBIM
SVP and Medical Director
American National

Agenda

- History of Narcotics
- Cases for consideration
- How do narcotics work?
- How do narcotics kill?
- What about other CNS depressants?
- Tools I use to determine a reasonable risk classificaton

Goals

- Better understanding of narcotics; their mechanisms of action and interplay with other CNS depressants
- Tools for underwriting those with multi-drug use
- Lively discussion
- We all walk away a little better off

Peking
Tientsin
Chusan Island
Shanghai
China
Chinkiang
Nanking
Ningpo
Amoy
Canton
Macao
Patna
India
Calcutta
Bombay

Am. J. Ph.] 7 [December, 1901

BAYER Pharmaceutical Products

HEROIN—HYDROCHLORIDE

is pre-eminently adapted for the manufacture of cough elixirs, cough balsams, cough drops, cough lozenges, and cough medicines of any kind. Price in 1 oz. packages, $4.85 per ounce; less in larger quantities. The efficient dose being very small (1-48 to 1-24 gr.), it is

The Cheapest Specific for the Relief of Coughs

(In bronchitis, phthisis, whooping cough, etc., etc.)

WRITE FOR LITERATURE TO

FARBENFABRIKEN OF ELBERFELD COMPANY

SELLING AGENTS

P. O. Box 2160 40 Stone Street, NEW YORK

A brief history

- Opium from ancient times (at least 6000BC)
- Early1800's extraction of morphine (aka Laudanum), named after Morpheus, the Greek god of dreams
- Codeine1830's, less potent and could be developed in the lab, i.e. man-made
- 1874—looking for a less addictive form of narcotic, heroin was born—oops!
- The Harrison Narcotics Tax Act of **1914** was approved on December 17, 1914. It involved "a special tax on all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations, and for other purposes."

Current Times

- 1970’s and ’80’s: Narcotics are safe and non-addictive
- 1990’s: Pain, the fifth vital sign
- Sentiment towards use of narcotics swings the other way influenced by Pharma (of course), expectations of patients, and comfort of doctors
- Penalties for not treating pain
- Vigorous R&D for new narcotics, codeine derivatives
- 2012 CDC: $534BB in narcotic Rx
- Déjà vu all over again!
- 8/22/14—DEA reschedules Hydrocodone
- Now, Heroin makes a resurgence…

- Drug overdose was the leading cause of injury death in 2012. Among people 25 to 64 years old, drug overdose caused more deaths than motor vehicle traffic crashes.
- Drug overdose death rates have been rising steadily since 1992 with a 117% increase from 1999 to 2012 alone.
- Between 2004 and 2005, an estimated 71,000 children (18 or younger) were seen in EDs each year because of medication overdose (excluding self-harm, abuse and recreational drug use).
- In 2011: drug misuse and abuse caused about 2.5 million emergency department (ED) visits. Of these, more than 1.4 million ED visits were related to pharmaceuticals
- **In 2012: 33,175 (79.9%) of the 41,502 drug overdose deaths in the United States were unintentional, 5,465 (13.2%) were of suicidal intent, 80 (0.2%) were homicides, and 2,782 (6.7%) were of undetermined intent.**
- Among children under age 6, pharmaceuticals account for about 40% of all exposures reported to poison centers.

Case 1

- 32 y/o F, our insured, life + AD benefits
- Review for Accidental Death
- Deceased, found at home, no note
- Records reviewed by me: chronic pain for 2 years after an MVA; persistent increase in narcotic requirement; 2 days prior to death, MD adds Soma to the regimen
- Coroner's determination: "deceased secondary to toxic effects of combined medications"
- Toxicology report: All compounds within appropriate limits for prescription by a physician
- Benefits paid

Case 2

- 24 y/o, our insured, Life + AD benefits
- Review for Accidental Death benefits
- Deceased, found at home, no note
- Records: Chronic pain for 1 year starting after appendectomy; two providers independently prescribing hydrocodone 10mg q 4 hours prn pain
- Coroner's determination: "narcotic overdose"
- Toxicology: hydrocodone and metabolites far in excess of that prescribed by a physician
- Suicide? Accidental OD? Who knows…
- Life benefits contested, AD benefits denied

J.J. WATT
6'5" 295
JOSE ALTUVE
5'5" 173

Mechanism of Action

- Binds to opioid receptors in the CNS, causing inhibition of ascending pain pathways, altering the perception of and response to pain; dose dependent and generally in morphine equivalents
- Produces generalized CNS depression.
- The really important part: drive to breathe is depressed, but we have some back up systems!
- Hypercarbia—breathe faster
- Hypoxia—breathe deeper

Mechanism of Death

- Produces generalized CNS depression
- Brain is less inclined to push the body to breathe deeper and faster
- Higher dose of narcotics or other CNS depressants leads to ever-greater build up of Carbon Dioxide until it takes on a life of its own!
- Interestingly, hypercarbia leads to a narcotic-like state, itself, and the downward spiral begins…
- Even faster in those with already hampered CNS and/or respiratory function (obese, OSA, other drugs, etc etc etc)

Issues

- Opioid Induced Hyperalgesia
- Tolerance
- Dependence
- Undiagnosed Psych Problems
- Pharma Advertising ($534BB)
- Patient Expectations and Demands

HUGE multifactorial push to prescribe and take narcotics in ever-increasing and changing ways!

What about other medications and drugs?

- EtOH
- Hypnotics (aka sleeping pills)
- Anticonvulsants and some Antidepressants
  - Adverse Reaction: CNS depression
- Benzodiazepines (e.g. Xanax)
  - Adverse Reaction, Significant (>10%): CNS depression
- Muscle Relaxers (e.g. Soma)
  - Precise mechanism is not yet clear, but many effects have been ascribed to its central depressant actions.

Others: UpToDate® lists >50 medications that can potentiate the effects of morphine alone!

So, what is an astute underwriter to do to protect the company?

- We know there is a problem!
- We have tools:
  - Application
  - MVR
  - Rx Check
  - APS
- We know the warning signs:
  - Multiple Physician prescribers
  - ER visits for overdose
  - History of abuse or treatment thereof
  - Types and Doses of Medications

APP, MVR, RxCheck

- Application
  - Similar to Psych underwriting: marriage status, employment, type of job, length of time with current employer
  - Admission of medication? for what?; does it make sense?
- MVR
  - Reckless driving, DUI, other offenses that might be associated with cognitive impairment or CNS depression
- RxCheck
  - What drugs? How much? How many?
  - Who's prescribing? Type of Doc (is a pain specialist better???)…
  - How many docs are prescribing?

APS

- For when you are just not sure…
- Concerns for abuse
- Drug testing, Drug contract?
- Does dosage make sense for the condition
- Is dosing stable? Accelerating? Are new drugs being added? Are they CNS depressants, also?

Red Flags

- Of the 22,114 deaths relating to pharmaceutical overdose in 2012, 16,007 (72%) involved opioid analgesics (also called opioid pain relievers or prescription painkillers), and 6,524 (30%) involved benzodiazepines. (Some deaths include more than one type of drug.) CDC
- Methadone, Hydrocodone, Oxycontin, Patch + oral
- Multiple CNS depressants
- More than one MD treating pain and/or Psychiatric issues
- History of abuse with current usage
- Things that just don't make good sense…

Case 1

- 32 y/o F, $500K, single, CPA, slightly overweight
- Admits to Hydrocodone for chronic pelvic pain after an MVA in which the pelvis was broken, 5mg bid prn, no other medical problems admitted and no other medications except BCP's
- MVR clear
- Labs normal
- Rx check supports stated medication use
- Avoid collusion but think about what we would do here!
- Insurable? **STD?** Better? Worse?

Case 2

- 24 y/o M, $255K, single, student,
- Address of potential insured matches that of the owner
- Owner and beneficiary is mother,
- Denies medical problems or medications
- MVR: positive hit for reckless driving year prior to application
- Paramed, blood, HOS all WNL
- Avoid collusion, but what would you do here?
- Investigate? Issue? **STD?** Better? Worse?

Q
&
A

The End