ADDICTION
OPIOIDS
THE ELDERLY
JOSEPH C MANCINI, MD
• THE SCIENCE OF ADDICTION
• OPIOIDS
• BUPRENORPHINE
• IMPLICATIONS FOR THE ELDERLY
• OPIOIDS
• ALCOHOL
• BENZODIAZEPINES
middle of the brain (e.g.,...
Medial Forebrain Bundle

- Ventral tegmental area (VTA)
- Nucleus accumbens (ACC)
  - Lateral hypothalamus (LH)
  - Frontal cortex (FC)
  - Amygdala (AMYG)
DEFINITIONS

- RECEPTORS
- NEUROTRANSMITTERS
- TOLERANCE
- WITHDRAWAL
- THE 3 C’S ~ CONTROL, COMPULSION, CONSEQUENCES
- AGONISTS
- ANTAGONISTS
Positive ion, typically sodium or potassium

Negative ion, typically chloride

10 Autoreceptor

9 Reuptake port

2 Neurotransmitters

3 Vesicle

4 Synaptic gap
Neurotransmitters of “Addiction”

- Dopamine (DA)
- Serotonin (SER)
- Endorphins (END)
- Gamma-aminobutyric acid (GABA)
OPIOIDS MORE ADDICTIVE!
WHY?

• PAIN RELIEF
• EUPHORIA
• SEVERE WITHDRAWAL SYMPTOMS
OPIOID CRISIS, WHY NOW?

- 91 DEATHS/DAY IN U.S.
- (GREATER THAN GUN DEATHS?)
- UNDER TREATMENT OF CHRONIC PAIN
- PURDUE PHARMA ~ OXYCONTIN 1996
- XALISIO ~ MEXICO
- FENTANYL ~ PRIMARILY FROM CHINA
NATURAL OPIATES TO SYNTHETIC OPIOIDS

NATURAL OPIATES
- MORPHINE
- CODEINE
- THEBAINE

SEMI-SYNTHETIC OPIOIDS
- HEROIN
- HYDROCODONE
- OXYCODONE
- HYDROMORPHONE
- BUPRENORPHINE

SYNTHETIC OPIOIDS
- FENTANYL
- METHADONE
- CARFENTANIL
Types of Opioid Receptors

- Endomorphins
- Dynorphins
- β-endorphin
- Enkephalins
COMMON OPIOIDS

- MORPHINE ~ 30 MG
- CODEINE ~ 20 MG
- HYDROCODONE ~ 30 MG
- OXYCODONE ~ 20 MG
- HYDROMORPHONE ~ 7 MG
- METHADONE ~ 20 MG
- FENTANYL ~ 0.3 MG
- NALOXONE ~ BLOCKER
- NALTREXONE ~ BLOCKER
- BUPRENORPHINE ~ PARTIAL BLOCKER
STOPPING THE CRISIS

- RESCUE
- RECOVERY (M.A.T.)
- PREVENTION
BUPRENORPHINE
Buprenorphine

Morphine  (-)Buprenorphine

Fig. 1. Chemical structure of buprenorphine as compared with morphine.
Intrinsic Activity: Full Agonist (Methadone), Partial Agonist (Buprenorphine), Antagonist (Naloxone)
Overview

Buprenorphine a thebaine derivative
High potency
Available as a parenteral analgesic
Produces sufficient agonist effects to be detected by the patient
Used outside United States for the treatment of opioid dependence
AFFINITY

BUPRENORPHINE HAS

• High affinity for mu opioid receptor

• Competes with other opioids and blocks their effects

• Slow dissociation from mu opioid receptor

• Prolonged therapeutic effect for opioid dependence treatment
DATA
Drug Addiction Treatment Act
Public Law 106-310

- Amends the Controlled Substances Act
  - Waiving the requirement for separate NTP registration
- Qualified practitioners will be assigned a Unique Identification Number (UIN) by DEA
  - First alpha letter is replaced with an “X”
  - New DEA certificate will be issued
THE ELDERLY
Y-amniobutyric acid (GABA)

• ALCOHOL
• BENZODIAZEPINES
• BARBITURATES
AT-RISK DRINKERS

• ADULT MALE: 15 OR MORE DRINKS/WEEK OR 5 OR MORE DRINKS/OCCASION

• ADULT FEMALE: 8 OR MORE DRINKS/WEEK OR 4 OR MORE DRINKS/OCCASION
RISK FACTORS

• A family history of addiction

• Co-morbid psychiatric conditions

• The patient who suspects that he or she has an Addiction

• Increasing the dose of medications without the authority of the provider

• Substance abuse under the age of 19
THE ADDICTED PATIENT

• Out of control with medications

• Medications decrease the quality of life

• Want medications to continue or increase despite side-effects

• In denial about medical problems

• Does not follow the treatment plan

• Does not have medications left over, loses prescriptions, always has a “story”
BENZODIAZAPININES

- Alprazolam (Xanax)
- Clonazepam (Klonopin)
- Diazepam (Valium)
- Flunitrazepam (Rohypnol “Roofies”)
- Lorazepam (Ativan)
- Midazolam (Versed)
- Oxazepam (Serax)
- Chlordiazepoxide (Librium)
- Temazepam (Restoril)
- Triazolam (Halcion)
AAPR BULLETIN
JUNE 2017
THE OPIOID MENACE

• 1/3 OF MEDICARE PATIENTS (12 MILLION) WERE PRESCRIBED OPIOIDS IN 2015

• 2.7 MILLION (>50 years old) ABUSED PAIN KILLERS IN 2015 HOSPITALIZATIONS DUE TO OPIOID ABUSE HAS QUADRUPLED FOR THOSE >65 YEARS OLD IN PAST 2 DECADES

• INCREASING NUMBERS OF ELDERLY ARE SELLING THEIR PILLS TO MAKE ENDS MEET
MYTH #1

EVERYONE WHO USES COCAINE OR HEROIN IS ADDICTED
MYTH #2

STRESS CAUSES DRUG ADDICTION
MYTH #3

USE OF ILLEGAL DRUGS MAKES YOU DESTINED TO BE ADDICTED