

OPIOID DEPENDENCE

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What is 'opioid'?

- Opium, derived from the ripe seed capsule of the opium poppy (*Papaver somniferum*)
- Has been used for its analgesic and euphoric effects since 4000 BC referring to the poppy as the 'plant of joy'.
- The extract contains the alkaloid opiate analgesics morphine and codeine.
- Heroin (diacetylmorphine) is the most commonly abused opiate, usually in the form of black-market powder.



Papaver Somniferum
“Poppy Plant”

- Opium
 - Fluid obtained from the poppy plant
- Opiate
 - a substance derived from opium
- Opioid
 - substance with morphine-like actions, but not derived directly from the poppy plant

MODES OF INTAKE

Ways of taking heroin:

- Oral ingestion (Tablet/syrup)
- Smoking (in a joint)
- Snorting/Sniffing it directly..
- Chasing (on a silver foil)
- Skin popping (subcutaneous)
- Main-lining/ Fixing (taking IV)



Mainlining:

- Spoon, wine bottle cap used as a cooker.
- Eye dropper
- Rubber suction.
- Normal syringe.
- Heroin may be drawn into the syringe through a small cotton ball.
- Booting – mixing blood.
- Heroin + Strychnine – hot shot.

- The most common method is "fixing"; in which, the heroin (50-250 mg dissolved in aqueous citric or ascorbic acid) is injected intravenously.
- "Skin-popping" (intramuscular and subcutaneous injection) is also done. Many drug addicts practice "stereo shooting" – a shot of heroin in one arm and cocaine in the other.



EFFECTS OF OPIATES

- Analgesia, feelings of euphoria or dysphoria, feelings of warmth, facial flushing, itchy face, dry mouth, and pupil constriction.
- Intravenous use of an opioid can cause lower abdominal sensations described as a 'rush'. This is followed by a feeling of sedation (called the 'nod') and dreaming.
- Severe intoxication may cause respiratory suppression, areflexia, hypotension tachycardia, apnoea, cyanosis, and death.

EFFECT ON mu RECEPTORS

Heroin, morphine, methadone	Agonist
Buprenorphine	Partial Agonist
Naltrexone, Naloxone, Nalmefene	Antagonists

Opioid abuse

Pattern of maladaptive use of an opioid drug leading to clinically significant impairment or distress and occurring within a 12-month period. Symptoms should have never met the criteria of opioid dependence.

- Recurrent opioid use resulting in a failure to fulfill major role obligations at work/school/home.
- Recurrent opioid use in situations in which it is physically hazardous.
- Recurrent substance related legal problems.
- Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of substance.

Opioid dependence

A cluster of physiological, behavioral, and cognitive symptoms, which, taken together, indicate repeated and continuing use of opioid drugs despite significant problems related to such use, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

- (1) Tolerance
- (2) Withdrawal
- (3) The substance is often taken in larger amounts or over a longer period than was intended.
- (4) There is a persistent desire or unsuccessful effort to cut down or control opioid use.
- (5) A great deal of time is spent in activities necessary to obtain the opioids (e.g., visiting multiple doctors or driving long distances), to use the substance , or to recover from its effects.

- Important social, occupational, or recreational activities are given up or reduced because of substance use
- The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance

Specify if:

- With physiological dependence
- Without physiological dependence

Tolerance

- (a) A need for markedly increased amounts of the substance to achieve intoxication or desired effect
- (b) **Markedly** diminished effect with continued use of the same amount of the substance

Signs and Symptoms of opiate withdrawal

- Aching of bones and muscles
- Anxiety, Dysphoria, Restlessness and broken sleep
- Craving
- Yawning, Lacrimation, Rhinorrhea,.
- Pupillary dilatation
- Nausea, vomiting, diarrhoea, abdominal cramps,
- Goose flesh

“Opening of all holes of the body”

INTOXICATION OR WITHDRAWAL?



Always look at the pupils; the pupil size can give very good clinical information.

INTOXICATION OR WITHDRAWAL?



Withdrawal

Intoxication

DETOXIFICATION

What is detoxification?

- A. Process of removal of toxins from the body?
- B. Admitting a drug dependent person in a hospital and giving him nutrition?
- C. Stopping drug use and providing treatment for withdrawal symptoms?
- D. Gradual reduction of drug use by the patient?

Introduction

- Detoxification: a process where a individual who is physically dependent on a drug is taken off the drug either abruptly or gradually.
- Purpose: minimize subjective and objective discomfort

Introduction contd...

- Detoxification: Initial Phase of treatment of substance dependence.
- Includes-
 - Treatment of withdrawal symptoms.
 - Assessment of health and psychosocial complications
 - Building therapeutic relationship.
- Pharmacotherapy has a primary role in this phase of treatment.

Methods

1. Gradual reduction of the substance in decreasing amounts
2. Abrupt cessation, AND :
 - a. Use of a drug pharmacologically similar to the substance on which the person is dependent, in particular one which produces cross tolerance.
 - b. Use of a drug which affects the mechanisms whereby withdrawal is experienced.
 - c. Symptomatic treatment to alleviate symptoms of withdrawal.

Abrupt total cessation of the primary drug and treatment of withdrawal is a widely accepted method.

What kind of medications are suitable for detoxification?

- Characteristics of a good agent for treatment of opioid withdrawals
 - Treat withdrawals
 - Longer acting
 - Safe
 - Cross tolerance
 - Less dependence potential
 - Easily available

Dose of medicines for detoxification

According to substance used.

- Potency, half life

Time elapsed since the last dose

Severity of dependence

- Duration of consumption, route of administration etc

Concomitant use of other drugs

Presence of general medical or psychiatric disorder.

Individual biological and psychological variables.

Dose of medicines for detoxification

Goal

Make the experience of withdrawal tolerable rather than suppress all symptoms.

Modify dosage according to assessment of withdrawal symptoms.

Least possible amount of medicine for the shortest period of time

Setting

- Indications for outpatient treatment.
 - Mild or moderate dependence
 - No previous treatment attempts
 - Good social support system
 - Absence of significant health damage
 - Geographical proximity

Setting

- Indications for inpatient treatment
 - Severe withdrawal states, multiple drug use
 - Medical complications/obvious psychopathology
 - Geographical distance
 - Failure of outpatient treatment
 - Parenteral drug use pattern/ intoxicated states
 - Crisis in social support system
 - Academic and research reasons
 - Multiple drug abuse.

Opiate Detoxification

- Goals
 - Ridding the body of acute physiological dependence.
 - Diminishing pain and discomfort.
 - Treating any medical problems discovered or making appropriate referrals.
 - Beginning the process of educating the patient about issues related to health and relapse prevention
 - Exploring issues such as family, vocational and legal problems that may need referral.

Factors Influencing Symptom severity

1. Specific Drug used.
2. Total Daily amount used.
3. Duration and regularity of use
4. Psychological factors

Guidelines

1. Rely on objective signs and determine severity of withdrawal.
2. Identify drug of abuse, dose, duration, route of administration and last dose.
3. Monitor vital signs.
4. Maintain fluid and electrolyte intake
5. Reassure the patient.
6. Start appropriate drug treatment.
7. Screen urine for illicit drug use (if available)
8. Assess and treat associated medical problems.

Pharmacotherapy

- In clinical practice commonly used medications are:
 - Buprenorphine
 - Dextropropoxyphene / Tramadol
 - Methadone
- Dose: titrated according to clinical symptoms.
 - Tab buprenorphine (S/l): 1.2 - 6mg
 - Tramadol 100 -200mg
- Duration: 7-10 days and to be tapered between 11-15 days.
- Others: Hypnotics, Antidiarrhoeal, NSAIDs

Typical prescription

- T. Buprenorphine (0.4 mg) 3-3-3
Or
- Cap Proxyvon (3-4times) /Tramadol (2 times)
- T. Diazepam 5 mg/Lorazepam 2HS
- T. Paracetamol 2-2-2
- Antidiarrhoeals

Other Approaches

- **Clonidine**, an α -2 adrenergic agonist
- Dose range: 0.2 to 0.4 mg/day.
- **NOT RECOMMENDED for OUTPATIENT BASIS:**
 - adverse side effects - Hypotension and sedation.
- **Does not block all withdrawal symptoms:**
 - Muscle aching and insomnia are not relieved.
- **Naltrexone in combination with clonidine:**
 - A more rapid method of detoxification: less than 72 hours
 - The former precipitating opioid withdrawal while the latter blocks at least some of the symptoms.

Protracted withdrawal

- Management of protracted withdrawal takes longer duration
 - Weeks to months
 - Various non pharmacological methods like relaxation therapy, CBT may need to be used.

Conclusions

- Detoxification can take place either in the inpatient or outpatient settings depending on the patient's clinical needs and other psychosocial factors.
- An accurate and competent clinical assessment is essential when detoxification and subsequent treatment plans are formulated.

Conclusions

- Opiate withdrawal is not life threatening, but uncomfortable
- Achievement of a substance free state is preparatory for the more challenging but also more rewarding period of sustained abstinence.

THANK YOU...