

Pharmacotherapy in the Treatment of Alcohol Use Disorders

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Medication Used to Treat AUD

- Detoxification agents
- Medications used to reduce or stop drinking

Neurophysiology of Alcohol Withdrawal

- In response to alcohol's depressant effects, body adjusts in order to maintain homeostasis
 - "Downregulation" of inhibitory systems
 - "Upregulation" of excitatory systems
- Cessation of alcohol use "unmasks" these changes

Alcohol Withdrawal Symptoms

- Craving
- Tremor
- Anxiety
- Sweating
- Insomnia
- Nausea
- Rapid pulse
- ↑ Blood pressure
- Fever
- DTs
- Seizures

Medications Used for Detoxification

- Some patients with AUD do not need medical detoxification
- Those who do have worse withdrawal symptoms
- For more severe withdrawal:
 - Benzodiazepines
 - Those with longer half-life preferred (Librium, Valium)
 - Phenobarbital (Less common)

Medications used to reduce or stop drinking

- Disulfiram (Antabuse)
- Naltrexone
- Acamprosate
- Anticonvulsants
- Baclofen

Alcohol's Metabolic Pathway

ALCOHOL

Alcohol dehydrogenase

ACETALDEHYDE

Aldehyde dehydrogenase

ACETIC ACID

CO₂ AND H₂O

Disulfiram

- Blocks the conversion of acetaldehyde to acetic acid
- Inhibits aldehyde dehydrogenase
- Drinking produces aversive effects (disulfiram-ethanol reaction/DER)
 - Flushing
 - Dizziness
 - Sweating
 - ↓ blood pressure
 - Nausea and vomiting

Disulfiram

- Drinking produces aversive effects
 - Blurred vision
 - Confusion
 - More rarely/high doses of Antabuse and alcohol
 - Extremely rapid or slowed heart rate
 - More extreme ↓ blood pressure
 - Cardiovascular collapse
 - Congestive failure
 - Convulsions

Disulfiram

- Most reactions last about 30 minutes
- Efficacy depends on patient compliance
- May limit length of relapse
- Lack of methodologically sound evidence that Antabuse prevents relapse
- Lack of guidelines for which psychosocial interventions are best suited to enhance compliance

Disulfiram

- Patients need to be monitored for:
 - Optic neuritis
 - Peripheral neuropathy
 - Hepatotoxicity

Naltrexone (ReVia)

- Well tolerated physically
- Alcohol detox must be completed
- An opioid antagonist

Naltrexone (ReVia)

- Alcohol works in part through the endogenous opioid system
- Makes drinking less pleasurable
- Evidence suggests that naltrexone reduces craving for alcohol, drinking days and length of relapse Vs. placebo

Naltrexone (ReVia)

- Depot form (intramuscular injection) works for 30 days
- Research suggests that naltrexone combined with psychosocial interventions (e.g., coping skills) works better than naltrexone alone
 - CBT
 - MET
 - 12-Step Facilitation

Acamprosate

- An amino acid derivative that both increases GABA (gamma aminobutyric acid) and decreases glutamate
- Latter thought to be basis for effects on AUD
- Also increases β -endorphins
- Rare side effects are generally mild and transient
 - Diarrhea, bloating
 - Pruritus
- May work better in combination with disulfiram

Acamprosate and Naltrexone

- No contraindications against combining
- Studies vary in their outcomes, but no clear advantage to combination found except Vs. placebo
- Psychosocial interventions an advantage

Anticonvulsants

- Topiramate
- Carbamazepine
- Reduces glutamate levels
- Some studies have found carbamazepine superior to placebo in reducing:
 - Time to first heavy drinking day
 - Drinks per drinking day
 - Number of consecutive drinking days
- Similar results with other anticonvulsants
- Not FDA-approved for treatment of AUD

Baclofen

- Muscle relaxant/antispasmodic
- Acts as GABA-B agonist
- Good safety profile for those with liver disease
- Inconsistent research results
 - Time to relapse
 - Decrease in alcohol intake
 - Abstinence
- Not FDA-approved for treatment of AUD

Treating Co-Occurring Psychiatric Disorders

- Subacute withdrawal (alcohol PAWS)
 - Anxiety
 - Depression
- Clinicians must differentiate subacute withdrawal from diagnosable psych disorders
- Antidepressants, lithium, antipsychotics and benzodiazepines have been used to treat co-occurring AUD and other psych diagnoses
- MD's must be careful to avoid contraindications, potentially bad cross-reactions and BUD



THANK YOU FOR YOUR ATTENTION!

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