Clinical Management Course: Medical Complications of Alcoholism

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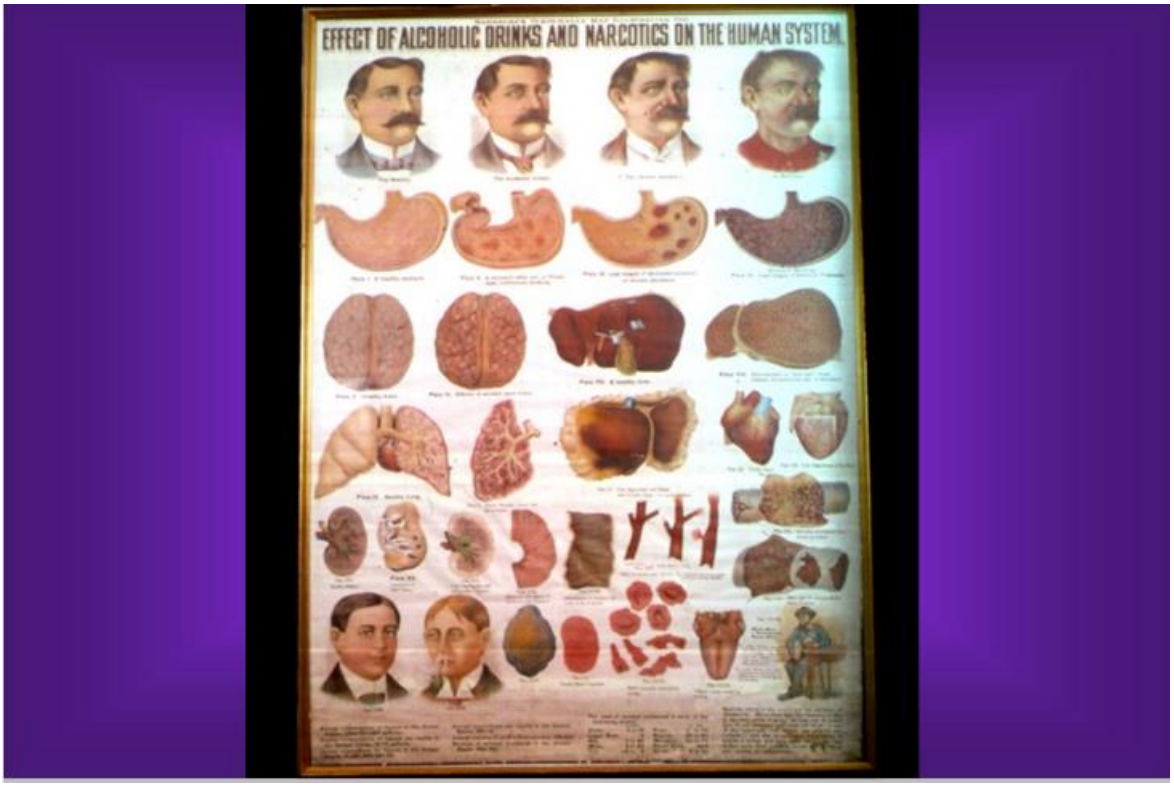
Societal and Healthcare Costs of Substance Abuse

- Estimated $300 billion/year for ***medical care and lost productivity***
- Abuse of alcohol, tobacco, and drugs contribute to ***each of the ten leading causes of death*** in U.S.
- Identification and appropriate treatment may result in ***large potential cost-savings***



Lifelong Progression of Alcohol Dependence

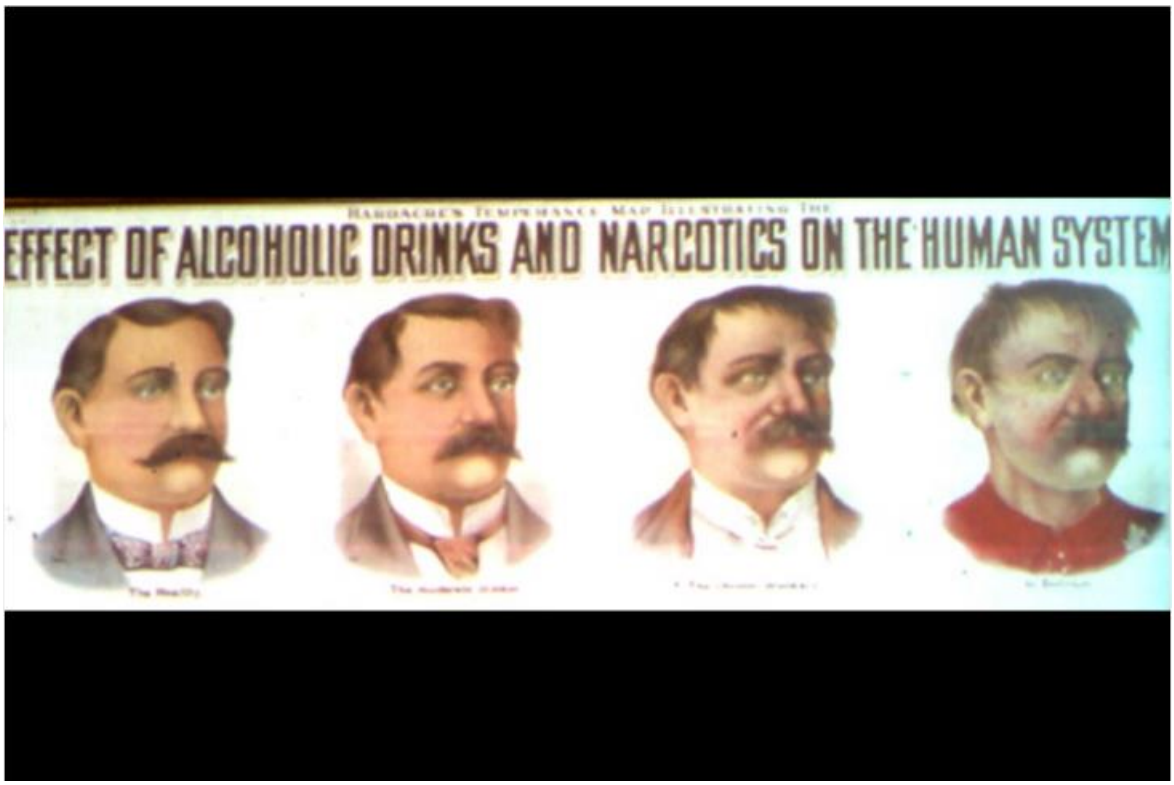
Antecedents / Sociocultural Context / Consequences of Alcohol Use / Abuse / Compulsive Use

Psychopharmacologic Effects of Alcohol

Vulnerable Individual
- Biologic
- Psychologic
- Social

Dependence Neuroadaptation

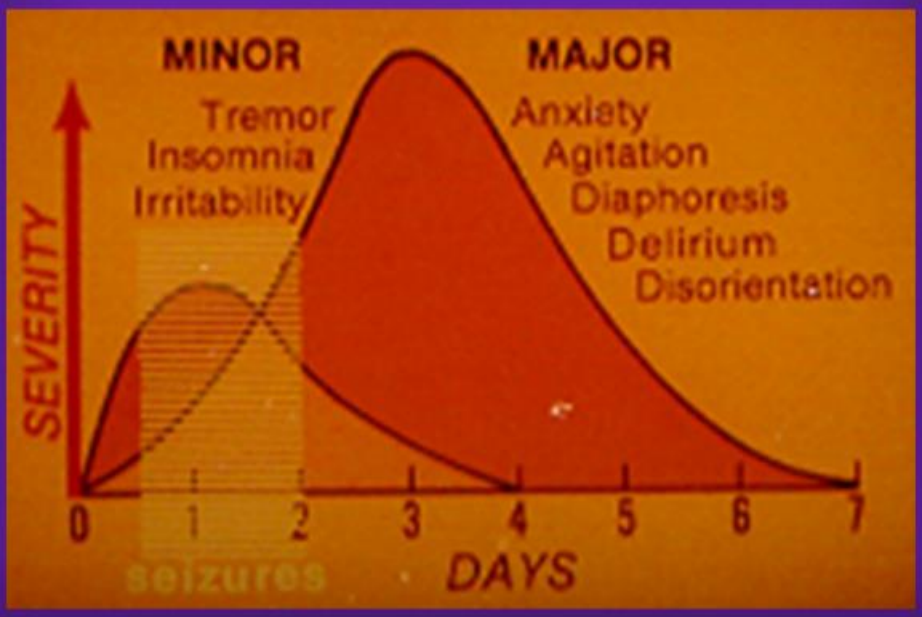
Complications
- Social
- Neuropsychiatric
- Medical



Alcohol Withdrawal Syndrome: Clinical Evaluation

- Severity of withdrawal symptoms
- Progression of withdrawal syndrome/time since last drink
- Co-occurring or complicating disorders

Progression of Alcohol Withdrawal



Clinical Evaluation of Withdrawal: Complications of Alcoholism

- Trauma
- Malnutrition/CNS dysfunction
- Fluid-electrolyte disturbances (Na^+, K^+, Mg^{2+}, dehydration)
- Metabolic disturbances (hypoglycemia/ hypercortisolemia)

Clinical Evaluation of Withdrawal: Complications of Alcoholism

- Gastritis/pancreatitis/liver disease
- Infections/immune dysfunction
- Cardiopulmonary disease
- History of seizures/delerium
- Other drugs of abuse/co-occurring disorders

Alcohol Withdrawal: Treatment Objectives

- Relief of symptoms
- Prevention or treatment of complications of withdrawal (eg. seizures, arrythmias, delerium)
- ***Post withdrawal rehabilitation***

Alcohol Withdrawal: Outpatient and Emergency Management

- History, physical, laboratory investigation
- Thiamine 100 mg p.o.
  - Diazepam 10-20 mg p.o. q 1-2 hr
  - Observe for 2 hours for progression

Alcohol Withdrawal: Outpatient and Emergency Management

- Discharge home
  - 2 or 3 additional doses of diazepam to facilitate sleep
  - Designate relative or friend to observe and ensure patient seeks further help

Alcohol Withdrawal: Indications for Hospitalization

- Medical/psychiatric/surgical condition requiring treatment
- Tachycardia (>110 bpm)
- Fever (> 38.0 °C)
- Confusion, hallucinations, or delerium

Alcohol Withdrawal: Indications for Hospitalization

- Recent seizure
- Recent head injury with loss of consciousness
- History of severe withdrawal
- Social isolation/unable to stop drinking

Predictive Risk Factors for Severe Alcohol Withdrawal Syndrome

- Drinking frequency----------→Around the clock
- Daily consumption----------→ 1 Fifth
- Age----------→40 years
- Duration of heavy drinking----------→10 years

Predictive Risk Factors Associated with Development of Alcohol Withdrawal

- Nutritional status----------→Poor
- Use of Sedatives----------→Esp. barbiturates /benzodiazepines
- Medical illness----------→Esp. febrile illness
- "Rum fits"----------→Past history
- Withdrawal history----------→Moderate to severe

Loading Dose Benzodiazepine Treatment

- When should treatment be initiated?
  - Depends on risk factors and symptom severity
- How much medication should be used?
  - 60 mg diazepam in 3 divided doses PO
- Additional treatment?
  - 20 mg diazepam q 1-2 h until symptoms controlled

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Intoxication
- Management:
  - Clinical observation q 1-2 hour
  - Obtain BEC, drug screen, medical work-up
  - Benzodiazepine loading once in withdrawal

Guidelines for Therapy of Alcohol Withdrawal

- Problem: agitation/anxiety/tremor
- Management:
  - Diazepam 10 - 20 mg p.o. q 1-2 hr, or
  - Chlordiazepoxide 50-100 mg p.o. q 1-2 hr

60 mg diazepam is the usual dose required for moderate-severe withdrawal

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Extreme agitation
- Management (when oral route not available):
  - Diazepam 2.5 mg/min I.V., or
  - Chlordiazepoxide 12.5 mg/min. I.V.
  - Administer until patient calm, subsequently individualized doses

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Hallucinations
- Treatment:
  - Diazepam load usually sufficient
  - Haloperidol 0.5 - 2.0 mg i.m. or I.V.
  - Olanzapine 5-10 mg or Risperidone 1-2 mg p.o.
  - Switch to diazepam loading once symptomatic control attained

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Seizure disorder?
- Management:
  - Adequate phenytoin blood levels: maintenance dose, 100 mg p.o. q 8 hr
  - No phenytoin in blood: loading dose, 200-300 mg p.o.; maintenance dose, 100 mg p.o. q 8 hr
  - No need to continue anticonvulsants if patient only has alcohol withdrawal seizures

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Serious hepatic dysfunction
- Management:
  - Oxazepam 15-30 mg p.o. or I.V. q 2 hr, or
  - Lorazepam 2-5 mg p.o. or I.V. q 2 hr
  - After loading taper over 5 days

Guidelines for Therapy of Alcohol Withdrawal

- Problem: Concomitant hypnosedative abuse/dependence
- Management:
  - Phenobarbital 120 mg p.o. q 1 hr until intoxicated; may also be given I.V. @ 0.04 mg/kg/min
  - Total dose 12-25 mg/kg depending on level of tolerance/dependence

Treatment of Alcohol Dependence

- Careful clinical evaluation with emphasis on medical and psychiatric complications
- Treatment of withdrawal syndrome
- Inpatient, outpatient, residential, aftercare
- Psychotherapies (social or milieu, insight-oriented, behavioral, individual, and group)
- Introduce and encourage participation in 12-step self-support groups, e.g. AA, NA, CA