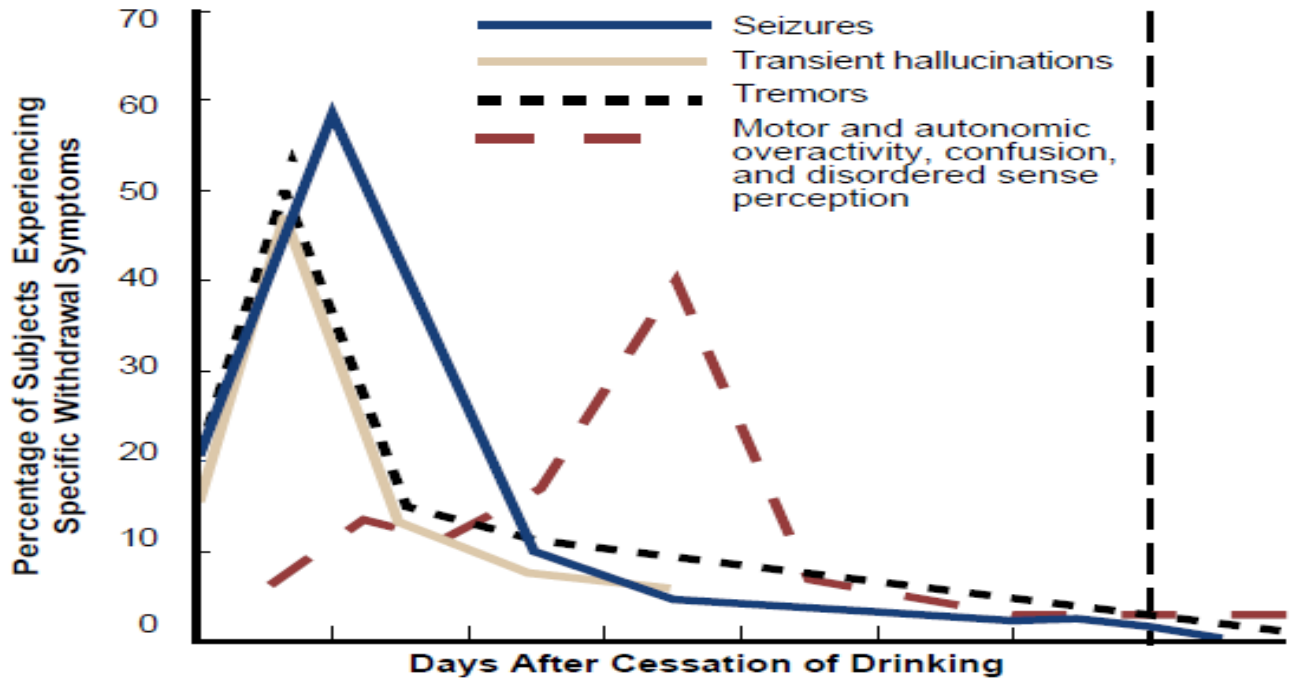
COMPLICATED ALCOHOL WITHDRAWAL MANAGEMENT

Introduction

- Alcohol withdrawal syndrome (AWS) usually mild – moderate in majority of patients
- About 10% of patients have complications during AWS – complicated AWS
- Complicated AWS
  - Withdrawal Seizures
  - Delirium tremens
  - Wernicke-Korsakoff syndrome
  - Neuropsychiatric syndromes
  - Cardiovascular complications

Time course in AWS



The relationship between cessation of drinking and the onset of tremors, hallucinations, seizures, and delirium tremens.

SOURCE: Adapted from Victor and Adams 1953.

Alcohol Withdrawal Seizure (WS)

Seizures in alcohol dependence

- Overall, 15% of alcohol dependence patienrs have seizures
  - One third are due to WS
  - Other causes of seizures in ADS:
    - Metabolic
    - Infectious
    - Trauma
    - Cerebrovascular conditions
    - Concomitant use of other substances, particularly benzodiazepines

Withdrawal Seizures (WS)

- 2 – 9% of alcohol dependent patients have WS
- Risk factors: Heavy drinking and past history of WS
- 90% of WS occur within 48 hours of stopping alcohol use
- Generalised convulsions alternating with muscular spasms (tonic-clonic seizures)
  - If Localised/partial seizures → rule out other causes

Withdrawal seizures: prevention

- Benzodiazepines are medications of choice in prevention of WS
- Effective in preventing recurrence of WS
  - Loading dose regimen of diazepam preferred
- No advantage of adding anti-convulsants such as carbamazepine or valproate in seizure prevention

Withdrawal seizures: management

- Many heavy drinkers present for treatment after experiencing one episode of WS

- Diagnosis of WS is by EXCLUDING other causes of seizures
  - Rule out head injury, subdural hematoma, metabolic disturbances, and other causes of seizures

Withdrawal seizures: management

- Patient should be managed in inpatient setting
- Investigations to rule out other causes of seizures
- Continious monitoring
  - Vital signs
  - Alcohol withdrawal symptoms
  - Recurrence of seizures
  - Neurological symptoms

Withdrawal seizures: management

- Thiamine administration (100 mg t.i.d. i.m/i.v) before administration of any carbohydrate (including glucose)
- Diazepam in loading dose should be initiated
- Nursing in calm environment
- No role of anticonvulsants on long term basis
- Abstinence from alcohol is best way to prevent recurrence of WS

Delirium Tremens (DT)

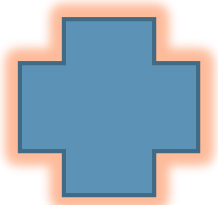
- Referred to as alcohol withdrawal delirium or delirium tremens
- Seen in alcohol dependence as part of withdrawals among heavy drinkers
- Onset within 1 – 4 days after stopping alcohol

- Incidence of DT: 5%
- DT can lead to death among ADS patients
  - 15% mortality in earlier western studies
  - 5% mortality currently in western studies due to improved management

DT: clinical features

- Long history of regular, heavy alcohol use
- Sudden stopping of alcohol
- Onset within short period of time, of the following:

Symptoms of alcohol withdrawal (tremors, anxiety, restlessness, insomnia, hypertension, fever)



- Disturbance in consciousness: disoriented to time, place and person (delirium)
- Perceptual disturbance
  - illusion: mistaking cracks in wall to snakes
  - Hallucinations: seeing small objects/persons (lilliputian hallucinations)
- Agitation

DT: Management

- Compulsory hospitalisation: should be treated as an emergency condition

- Thorough assessment
  - H/O alcohol dependence
  - Detailed systemic and neurological examination
  - Rule out concomitant medical comorbid conditions: head injury, hypoglycemia, metabolic disturbances, liver failure, pancreatitis, GI hemorrhage, meningitis, etc.

- Investigations
  - Blood sugar levels,
  - Serum electrolyte
  - Liver function tests

DT: Management

- Close monitoring of vital signs
- Quiet surroundings with minimal stimuli
- Electrolyte imbalance, if present should be corrected
- Control of agitation is most important
- Medications: Benzodiazepines are treatment of choice
  - Oral loading dose of diazepam/lorazepam till desired effect
  - If rapid sedation required → intravenous diazepam

DT: management

- Antipsychotics to be used only if agitation is not controlled by benzodiazepines
  - To be used as adjunct to benzodiazepines and **not 'instead of'** benzodiazepines
  - Newer antipsychotics (olanzapine, risperidone) have better safety profile

- Patients with DT have higher chance of further episodes in subsequent withdrawals

Wenicke's Encephalopathy

- Acute brain condition resulting from acute deficiency of thiamine (vitamin B1) in chronic alcohol users
  - Poor dietary intake
  - Intestinal malabsorption
- Reversible if treated early; untreated cases can have irreversible damage called as ‘Korsakoff’s syndrome/psychosis’

- 25% of wernicke's encephalopathy recover completely
- 25% do not recover and develop Korsakoff's syndrome
  - Chronic, disabling condition
  - Severe anterograde amnesia: inability to learn new information
  - Confabulation (filling up gaps in memory through imaginary stories)
  - May require long term institutionalisation in some patients
  - There is no effective treatment of korsakoff's syndrome

Wernicke's encephalopathy: clinical features

- Classic triad:
  - Acute onset of confusion (in 80%)
  - Ataxia (inability to walk properly, in 20%)
  - Eye signs: ophthalmoplegia, nystagmus (in 30%)

- May also result in hypothermia, hypotension, coma and death

- Contrast enhanced MRI: bilateral lesions in mammillary bodies

Wernicke's encephalopathy: management

- Usually underdiagnosed condition

- Suspicion should be high in all heavy drinkers presenting with coma, memory impairment→ positively rule out Wernicke's encephalopathy

Wernicke's encephalopathy: management

- Thiamine should be given before any carbohydrate administration
  - Dose of 500 mg/day (i.v. diluted in saline over 30 minutes): Daily administration for 3 – 5 days
  - Subsequently, dose of 300 mg/day orally/parenterally for 1 – 2 weeks
- Correct hypomagnesiumia and other electrolyte disturbance, if present
- If drinking persists → maintain on oral thiamine (100 mg/day) till abstinence