### Alcoholic Liver Disease (ALD)

#### Definition of alcoholic liver disease (ALD)
- A spectrum of alcohol-induced liver dysfunction ranging from mild, reversible fatty liver to irreversible liver fibrosis and cirrhosis.

#### Epidemiology of alcoholic liver disease (ALD)
- Common - difficult to say exactly how much as many cases don’t present or are asymptomatic
- About 20% of alcoholics will get cirrhosis
- Risk factors:
  - Continuous high alcohol intake
  - Binge drinking (although occasional binges better than drinking a lot every day)
  - Genetic predisposition
    - 50% of heavy drinkers have normal livers
  - Women most susceptible than men

#### Pathogenesis of alcoholic liver disease (ALD)
- Possible pathogenesis includes:
  - ETOH processing in the liver increases the NAD/NADH ratio, which causes more fatty acid synthesis and less fatty acid oxidation, causing fatty liver.
  - Acetaldehyde produced from ETOH may also damage liver cells
  - ETOH might convert normal hepatocytes into myofibroblasts, which lay down collagen and cause fibrosis.
  - ETOH also enhances the effects of other toxins on the liver (e.g. paracetamol).

#### Presentations of alcoholic liver disease (ALD)

**Fatty liver**
- Accumulation of fat inside hepatocytes
- Can begin to occur after only a few days of drinking heavily
- Usually asymptomatic and with no signs

**Alcoholic Hepatitis**
- Inflammation of hepatocytes due to excessive alcohol intake
- Cases range from mild with only derangement of liver function tests to severe with a high mortality rate.
- Moderate cases may have mild jaundice, hepatomegaly and signs of chronic liver disease
- Severe cases may have decreased GCS, encephalopathy, high bilirubin levels and prolonged prothrombin times.

**Cirrhosis**

#### Differential diagnosis of alcoholic liver disease (ALD)
- Other causes of chronic liver disease
- Other causes of steatosis e.g. obesity
## Diagnosis of alcoholic liver disease (ALD)

### Fatty liver
- Ultrasound scan can pick up fatty change in the liver

### Alcoholic hepatitis
- Patient with significant alcohol intake who develops deranged liver function tests; especially with an elevated bilirubin and an AST:ALT usually greater than 2.
- The transaminases are rarely > 500

## Initial management of alcoholic liver disease (ALD)
- See [chronic liver disease](#) section for initial investigations and management
- Advise to cut down and ideally STOP drinking
  - Involve local drug and alcohol liaison teams
  - Inpatient/outpatient detoxification schemes if appropriate
- If admitted to hospital
  - Give intravenous B vitamins
    - IV Pabrinex I+II 1 vial three times daily for 3 days unless Wernicke’s is suspected in which give 2 vials three times daily for 5 days
  - Once discharged then give oral B vitamins
    - Vitamin B Compound Strong 2 tablets daily
  - Monitor for and treat withdrawal symptoms
    - Some hospitals still prescribe a reducing regime of a long-acting benzodiazepine (e.g. Chlordiazepoxide approx. 20mg QDS to for first day, decreasing daily),
    - However, others are now using a regular scoring system and giving benzodiazepines on an as-needed basis (e.g. CiWA scoring system)
  - Ensure adequate nutrition
    - Give high-calorie supplements or NG feeding if needed
  - Avoid opiates
  - Give laxatives +/- enemas to ensure bowels opening 2-3 times a day

## Further management of alcoholic liver disease (ALD)
- Steroids or pentoxifylline for alcoholic hepatitis:
  - The use of steroids or an oral phosphodiesterase inhibitor (pentoxifylline) for patients presenting with severe alcoholic hepatitis has been controversial.
  - The STOPAH trial reported in 2014 that only steroids improved 28-day mortality but there was no difference between either drug in 1 year mortality
  - The major determinant of survival was abstinence from alcohol
- Patients have traditionally been treated with prednisolone 40mg if they present with hepatic encephalopathy or a modified Maddrey’s discriminant function > 32
  - This is a simple formula: (4.6 x (PT value – control) + bilirubin mg/dl)
- Sepsis is a contraindication to giving steroids

## Complications of alcoholic liver disease (ALD)
- See complications of CLD

## Prognosis of alcoholic liver disease (ALD)
- Mortality of severe alcoholic hepatitis is 50%