

## Hepatitis B

### Definition of Hepatitis B

- An infection of hepatocytes by the hepatitis B virus

### Epidemiology of Hepatitis B

- Incidence low in UK and USA: about 0.5%.
  - High in Africa, Middle East, Far East: about 10-15%
- Blood, sexual and vertical transmission
- 350 million chronic carriers worldwide

### Cause of Hepatitis B

- Hepatitis B virus: a DNA virus with reverse transcriptase activity

### Presentations of Hepatitis B

- Often subclinical or flu-like illness
- Acute presentations (if symptoms noted at all)
  - Jaundice (only 30-50%)
    - Dark urine/pale stools due to intrahepatic cholestasis (if jaundice severe enough)
  - Serum-sickness-like syndrome (occasionally)
    - Rash, polyarthritis, fever
  - Arthritis or immune-complex-mediated renal failure (rarely)
  - Tender hepatomegaly
- Chronic
  - Chronic liver disease – either compensated or decompensated

### Differential diagnosis of Hepatitis B

- Other causes of acute hepatitis
  - Drugs, Hep A, Infection, alcohol
- Other causes of chronic liver disease (see chronic liver disease page)

### Staging of and interpreting viral markers of Hepatitis B (serology)

- [Click here for full explanation of how to interpret Hep B serology](#)

### Initial management of acute Hepatitis B

- Blood tests:
  - FBC
  - LFTs
  - Clotting screen
  - Viral screen including HBsAg, HBV DNA, HBeAg, HIV, HCV, Hepatitis Delta
  - Autoimmune screen
- Ultrasound Liver
- Treatment is discussed further below but is not normally undertaken in the acute phase other than supportive measures and alcohol avoidance.

### Further management of chronic Hepatitis B

- Investigate as per other causes of chronic liver disease (see [CLD page](#))
- HBV vaccine is available
- **Treatment**
  - HBV is not yet curable and treatment aims for viral load suppression and to prevent liver cirrhosis and its complications.
  - Decision to treat takes into account a number of factors including degree of fibrosis, HBV DNA levels, comorbidities, likelihood of treatment success.
- **Treatment options**
  - Pegylated interferon
    - No resistance develops
    - Finite duration of therapy
    - Less well tolerated than nucleoside or nucleotide analogue due to side-effect profile
    - Only moderate antiviral activity
  - Nucleoside (Lamivudine, Entecavir) and Nucleotide (Tenofovir) analogues
    - Potent antiviral effects
    - Few side-effects
    - Risk of resistance with some drugs

### Complications of Hepatitis B

- Fulminant hepatitis from acute infection
- Chronic infection which can lead to chronic liver disease, cirrhosis and its complications including HCC (see [decompensated CLD page](#))

### Prognosis of Hepatitis B

- Acutely, mortality 1%.
- About 10% will become chronically infected, and will either be asymptomatic carriers (non-infective, no liver damage) or have chronic hepatitis (which leads to cirrhosis and is infective)

### Common questions concerning Hepatitis B

#### How does Hepatitis B present?

- Often subclinical or flu-like illness.
- Acute hepatitis, i.e. hepatomegaly
- Can present with serum-sickness-like syndrome
  - Rash, polyarthritis, fever.
- Rarely, arteritis or immune-complex-mediated renal failure
- Hepatomegaly
- Jaundice (only 30-50%)
- Dark urine/pale stools due to intrahepatic cholestasis (if jaundice severe enough)
- Chronic liver disease – either compensated or decompensated (see [CLD pages](#))

#### What are the treatment options for chronic hepatitis B?

- Pegylated interferon
  - No resistance
  - Finite duration of therapy
  - Less well tolerated due to side-effect profile
  - Only moderate antiviral activity
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**What are the complications of hepatitis B?**

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- Chronic infection which can lead to chronic liver disease, cirrhosis and its complications including HCC (see **decompensated CLD** page)