

VIROLOGY LECTURE

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Enterically Transmitted Hepatitis (Water-borne hepatitis)

- Inflammation of the liver, due to viruses that are transmitted by the fecal-oral route.

Viral etiology:

- Hepatitis A virus (HAV)
- Hepatitis E virus (HEV)

Transmission:

- By the fecal oral route
- Person-to-person contact, through contaminated hands
- Contamination of drinking water with infectious fecal material
- Eating uncooked fruits, vegetables and shell fishes contaminated with infectious fecal material.

Nature of Disease:

- Both HAV and HE cause acute hepatitis.
- They are not associated with chronic infection (chronic liver diseases)

Symptoms:

- The majority of infections are asymptomatic.
- Anicteric cases are also very common.
- Symptoms varies from sub-clinical, anicteric, mild illness to full range of symptoms with jaundice.
- Infection in children usually asymptomatic or anicteric

Symptoms: (Continued)

- Infection in adults are more severe with jaundice
- Symptoms usually start suddenly, with anorexia, malaise, nausea, vomiting, fever, right upper quadrant abdominal pain and raised liver enzymes “ALT and AST” (Pre-icteric phase)
- Icteric phase, characterized by jaundice, dark urine and pale stools.
- Jaundice usually peak in 1 to 2 weeks, then fades over 2-4 weeks.

Complications:

- Fulminant hepatitis is rare <0.1% of cases.

Pathogenesis:

- These viruses enter the body by ingestion of contaminated food, replicate in the intestine, then spread to the liver, where they multiply in hepatocytes.
- Viruses are excreted in the stools during the incubation period, before the onset of clinical symptoms.

Prevention:

- HAV
 - Inactivated vaccine is available for HAV
 - The vaccine is safe and highly immunogenic in man and induce protective immunity.

Prevention (Continued)


HAV (Continued)

- Passive immunization using normal human immunoglobulin is recommended to travelers to Asian-African countries and to house-hold contacts.
- HEV
 - There is no vaccine is available yet.

Lab Diagnosis

- By detection of IgM –Ab to HAV and HEV

Hepatitis A Virus (HAV)

- Family: Picornaviridae
 - Genus: Hepatovirus
 - Icosahedral, unenveloped
 - Small 30 – nm in diameter
 - ss-RNA genome, with positive polarity
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Hepatitis E Virus (HEV)

- Family: Caliciviridae
 - Icosahedral, unenveloped
 - Small 30 – nm in diameter
 - ss-RNA genome, with positive polarity
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