

Hepatitis

It is a disease that affects liver causing it to swell & become inflamed

Common causes of Hepatitis include some viruses

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Damage liver cells → Cause swelling & prevents from functioning.

Hepatitis A virus causes temporary liver inflammation

- Least threatening among various forms hepatitis
- Does not lead to ch-liver disease
- It is mild disease illness lasting for 1-2 wks
- People recover completely

spreads → by fecal-oral route through contaminated water/food & virus by sewage
Food handlers who do not wash their hands after using bathrooms.

HAV seen in schoolage & young adults

Outbreaks more often seen in institutions, day care centers, rural areas.

Symptoms :

No symptoms in children -

Adults Dark coloured urine

Light coloured stools

Vomiting, Nausea, Abd pain & fever
Full Recovery → 6 months (approx)

Prevention : Hepatitis A Vaccine : A

Given at an age of 2 yrs

Vaccine is recommended for those who live

- in poor sanitary condition
- IV drug users
- Homosexuals
- People who receive blood product such as Hemophiliacs.

- For adults
2 vaccine doses separated by 6 months
can give 20 yrs of protection.

- wash hands & soap & water after using bathrooms

Diagnosis : Infection confirmed & a blood test

Treatment : Infection disappears with in a few wks to few months.

— Immune globulin can provide temporary immunity to the virus up to 3 months.

— Very small percentage of patients & Hepatitis 'A' virus infection has recurrences within wks to months after recovery.

Vaccination for Health care center Employees.
Laboratory workers who handle
fecal specimens.

For Adults - 2 doses IM @ 6 to 12 months
apart -

Children - 2 - 18 yrs. 3 injection
2 doses one month apart -
3rd @ 6 to 12 months
after first
dose.

Hepatitis B

after recovery
occurrences with in two to months
Hepatitis 'A' virus infection has
very small percentage of patients
immunity to the virus up to 2 months
immune globulin can provide temporary
protection with in a few weeks to
few months
infection confirmed in blood test.

Diagnosis
Treatment

②
Hepatitis

B virus

causes

①
liver inflammation

↓
Lead to liver cells damage

↓
scarring of liver

↓
Results
Cirrhosis.

Body fluids i.e. blood, semen & vaginal secretions
are infected w/ HBV virus.

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Can transmit the disease to anyone
comes into contact

Mother infected w/ HBV can transmit virus to her fetus.
Sharp objects contaminated w/ blood — like

Acupuncture needles

Needles used for IV drug abuses,

Razors

Tattooing equipment.

Can spread
to virus

①
Symptoms :

Mild flu-like illness
Jaundice in 20-40%

In 5-10% of them have symptoms
like arthritis.

Some may develop severe cases of HBV.
Fulminant hepatitis
& die of liver failure.

②
Diagnosis :

When the persons are infected HbsAg outer
protein coat of the virus found in the blood (serum)

Presence of HbsAg is referred as antigenemia.
& becomes carrier & have higher risk of
developing liver cancer.

Blood tests for HBV → HbsAg +ve

This test shows a person infected
with HBV & is of infectious
if test is +ve.

③

→ Anti HBs (antibody to HbsAg) → when it is +ve.

(HbsAg → surface antigen of HBV)



Shows that the person is immune to hepatitis because → He/she might have the infection or disease / Got Hepatitis B vaccine.

→ HBe Ag : Means → Active viral reproduction in liver & that person is highly infectious.

→ Anti HBe → Indicates ↓'sng degree of infection.

→ Hepatitis B DNA → Measurement of actual virus from blood specimen.

This is used to monitor infection during treatment.

Transmission :

By body fluids like

- Blood
- Saliva
- Semen

} of ch HBV is cause for infection

→ Virus transmitted through sex
Hence protection is necessary

- All Household members should receive the Hepatitis vaccine.
- Razors & Toothbrushes should not be shared
- Open wounds should be covered.
- Household surfaces contaminated w/ body fluids should be washed w/ household Bleaching Powder.
- Ch HBV person should avoid alcohol & other drugs to prevent further liver damage.
- Ch carriers should not donate blood, plasma, body organs, tissue or sperm

Treatment :

- Interferon
- Adefovir
- Lamivudine

} For Ch Infection
Hepatitis B

Recommended for those with Ch. replicative HBV infection

Interferon - given once a week for 6 months either

daily or 3 times / wk .

(5)

40% of pat's treated w/ Infection respond well .

HBV vaccine protects atleast for 20 yrs .

considered safe & effective .

Given in 3 injections → scheduled at birth
1 month
6th month .

For babies born to infected HBV mothers .

↓
Hepatitis

Immune globulin is given
immediately after birth
followed by a complete course
of 3 injections of HBV vaccine
within first 12 hrs of life .

Hepatitis C (Hev)

(6)

Hepatitis C was discovered in 1970's
Called as Non A & Non B Hepatitis.

90% of blood transfusion related
Cases of Hepatitis, so main route
of Hev transmission is \bar{c} infected
blood & body fluids not
easily transmitted by sexual
contact as HBV.

Risk factors for Hepatitis C —

- Low socioeconomic groups.
- organ transplants mainly kidney transplants
- AIDS patients are at risk.

Transmission : Contact \bar{c} infected blood

Contaminated IV needles

Razors

Tattoo

Mail files.

Tooth brushes, Acupuncture needles.

⑦
→ Transmission from Infected Mother to Newborn is
Less than 5%.

→ HCV is not as infectious as other Hepatitis

Symptoms : In acute stage Mild flu like symptoms.

Most people with Ac. HCV infection have
No symptoms.
No Jaundice.

After being exposed to the virus, HCV
infection takes about 15 - 160 days to
develop with an average of 50 days.

Diagnosis : Blood test anti HCV detects presence
of antibodies to HCV

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But cannot determine whether the
infection is acute or chronic.

Treatment : Interferon & Ribavirin
Combined therapy eliminates 50%
of patients after 6 months of
treatment.

New treatment : Pegylation :

Attaching cholesterol like substance to Interferone molecule.

Which enables the Interferone for longer time in body.

There dose of injection is reduced from three times a wk to just once.

Combination therapy \bar{c} PEG-Interon \rightarrow combination \bar{c} Ribavirin capsules provided. higher sustained Response

Prevention :

Precaution to be taken when handling contaminated ~~with~~ blood ~~from~~ ~~in~~

Avoid sharing things like razors
~~and~~ Toothbrushes, clippers, Nail files.

Hepatitis D (HDV)

Hepatitis E (HEV) ⑨

Caused → HDV

HEVirus.

Seen → Central Africa
Middle East
Central South America

Developing countries
India, Asia, Africa
Central America.

Transmission → Contact &
Infected blood
Contaminated needles.
Sexual contact
& HDV infected
Person.

Like HAV though.
Contaminated
Food & water.

Symptoms → Similar to HBV
Acute Infection &
~~HDV~~ HDV Virus
Hepatitis develops
in about 2-8 wks.

Same as HAV
Jaundice & flu-like
aches.

Virus requires hepatitis B
to reproduce.

Cannot infect a person who is
not infected & HBV.

People & co-infection of HBV & HDV
have much higher risk of Hepatitis
than HBV alone.

→ Infected people may
be contagious for
2 wks after symptoms
appear
1-2% has chance of
developing sudden
& severe liver disease
where liver transplant may