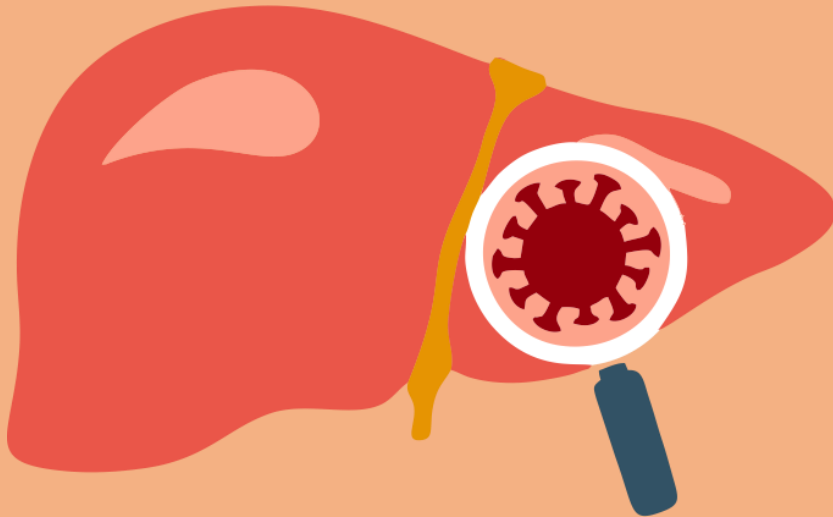


PRAKASH

PRogrammed **A**pproach to **K**nowledge
And **S**ensitization on **H**epatitis



HEPATITIS INDUCTION PROGRAM

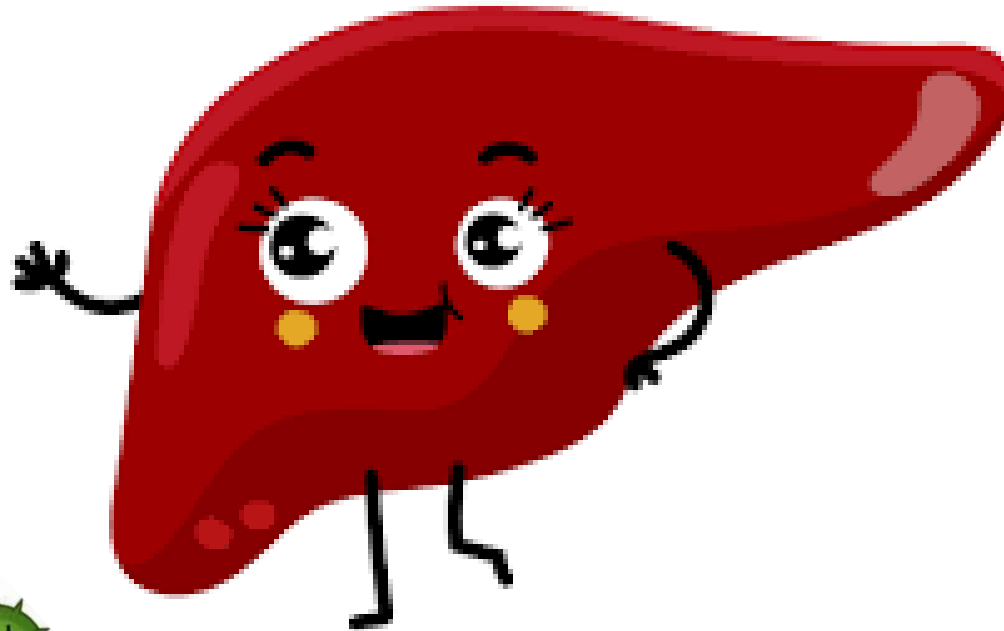
Viral Hepatitis B, C & D

Tarika Sharma

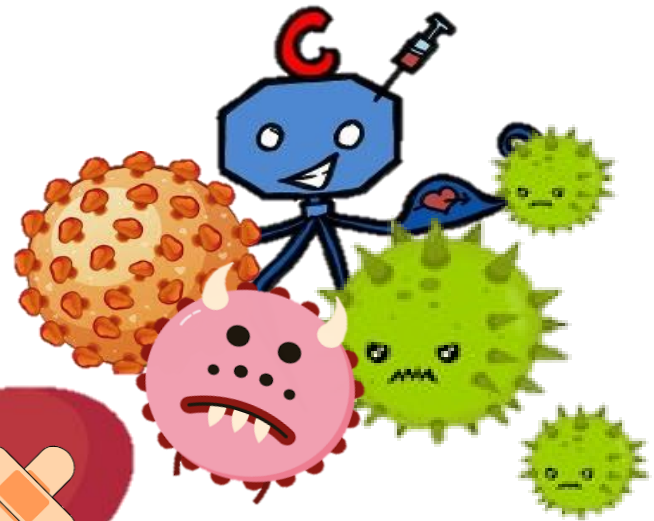
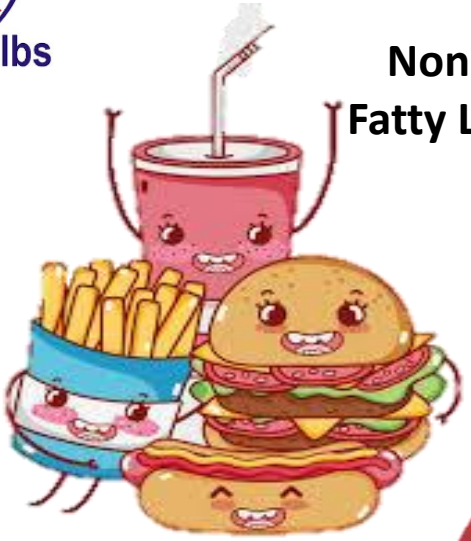
Faculty, CON, ILBS

New Delhi

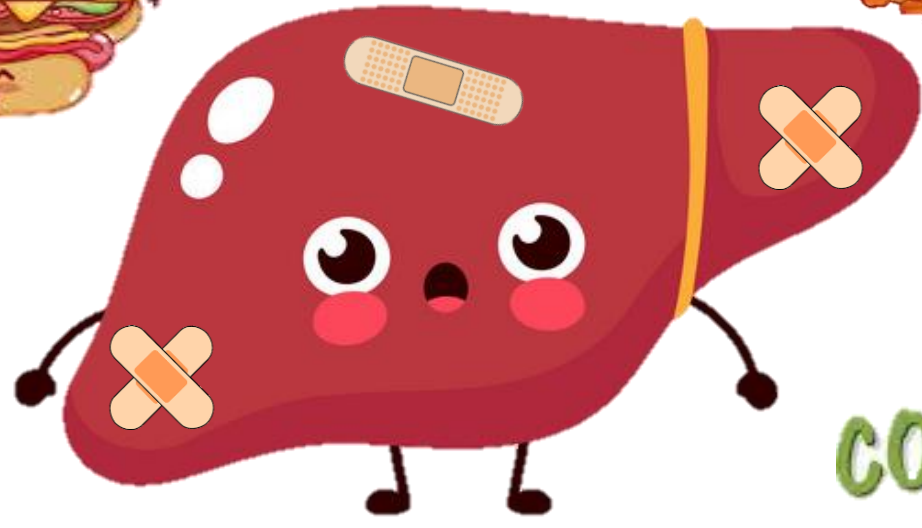
We have only one LIVER.....



Non- alcoholic Fatty Liver disease



Viral Hepatitis



CORONAVIRUS

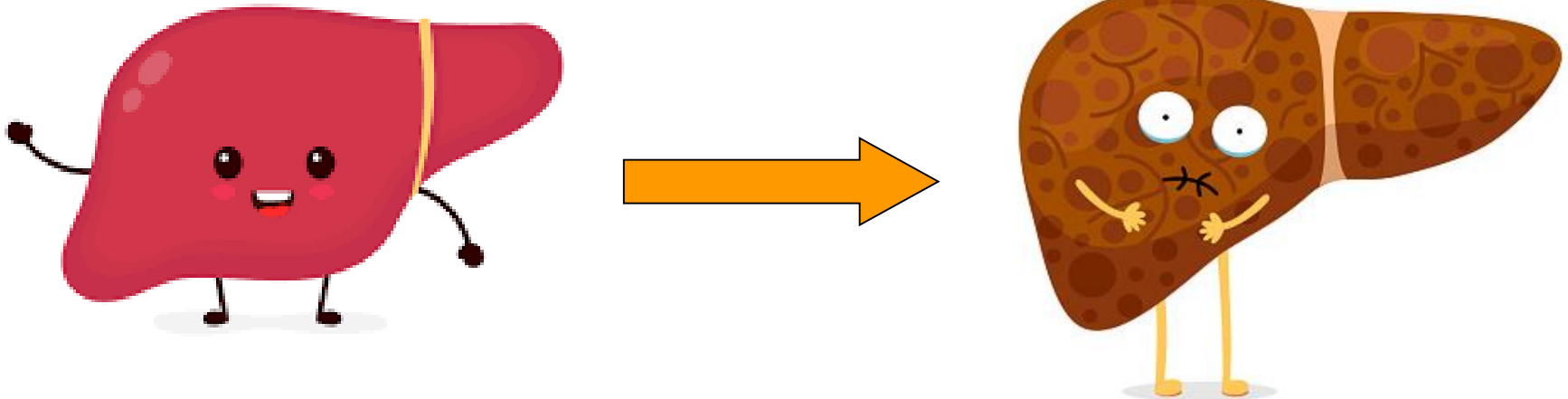


Alcohol-related Liver disease



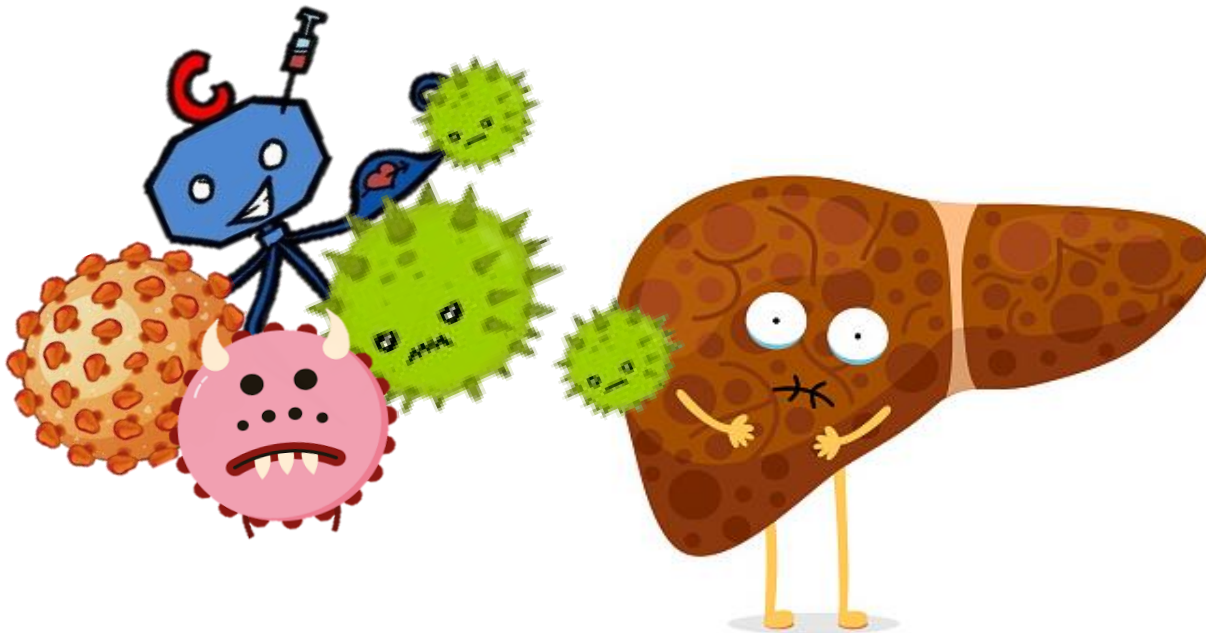
What is Hepatitis?

- Hepar (liver) + itis (inflammation)= Hepatitis
- Hepatitis means inflammation of the liver



What is Viral Hepatitis?

- Viral hepatitis means inflammation (swelled or enlarged) of liver caused by viruses.



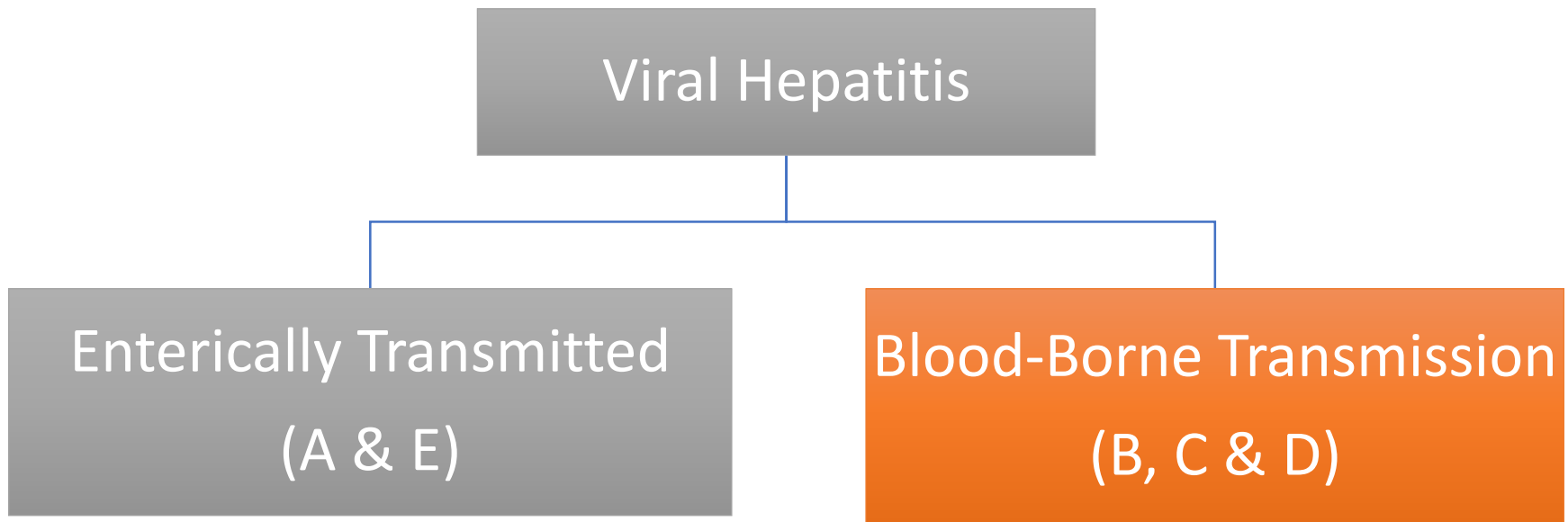
Classification of Viral hepatitis



Viral Hepatitis

Enterically Transmitted
(A & E)

Blood-Borne Transmission
(B, C & D)



Hepatitis B

- Causative agent:
 - Hepatitis B virus (HBV); Circular ds DNA
- SEARO - 2% Prevalence in general population
- Incubation period : 75 days (30 – 180 days)
- Chronicity: High risk for cirrhosis and
Hepatocellular carcinoma

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

Transmission- HBV



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

Transmission- HBV

- HBV is not spread through:




<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

High Risk Groups-HBV


- Infants born to infected mothers
- Sex partners of infected persons
- Men who have sex with men
- Injection drug users
- Household contacts of known persons with chronic HBV infection
- Health care professionals
- Hemodialysis patients

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

Pathophysiology




- Causes (Hepatitis B, C or D Virus)




- Damage to the hepatocytes by the body's immune system




- Altered cellular function




- Changes in the endoplasmic reticulum responsible for the protein and steroid synthesis and detoxification



- Alteration in the liver functions depending on these processes




- Kupffer cells increase in size and number



- Liver inflammation leading to various sign and symptoms such as pain, fever, anorexia, nausea, vomiting, fatigue and increased WBC count



- Alteration in blood and lymph flow



- Decreased vitamin K absorption and decreased bilirubin metabolism



- Bleeding tendencies, hyperbilirubemia and increased urobilogen leading to jaundice, clay colored stool and dark urine

Clinical manifestations

- Fever(Mild/absent)
- Loss of appetite
- Tiredness
- Pain in muscles, joints
- Nausea, diarrhoea, vomiting
- Pain abdomen
- Headache
- Dark urine
- Pale stools
- Jaundice

Diagnosis

- Liver Function Tests (LFT)
 - Rise in levels of aminotransferase and bilirubin
- Serological markers
- HBV DNA

Serological markers

- HBcAg (Hepatitis B core antigen)
- HBsAg (hepatitis B surface antigen)
- HBeAg (Hepatitis B e antigen)
- Anti-HBs (Hepatitis B surface antibody)
- Anti-Hbe (Antibody to HBeAg)
- Anti-HBc (Hepatitis B core antibody)
- IgM anti-HBc
- IgG anti-HBc

Treatment of HBV

- Acute infection:
 - No specific Treatment
 - Treatment is supportive
- Chronic infection:
 - Oral antiviral agents - Tenofovir or Entecavir
 - Regular follow up continues life-long
 - Prevent liver damage & HCC

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

Treatment for Chronic Hepatitis B

Sr No	Drugs	Dose
1	Tenofovir disoproxil fumarate (TDF)	300 mg once daily
2	Entecavir (adult with compensated liver disease and lamivudine naive)	0.5 mg once daily
3	Entecavir (adult with decompensated liver disease)	1 mg once daily
4	Tenofovir alafenamide fumarate (TAF)	25 mg once daily

Prevention of HBV



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>

Hepatitis C

- Earlier known as post-transfusion **non A-non B hepatitis (PT-NANB)**.
- Incubation period : 2 weeks – 6 months
- Prevalence: general population is 1-2%
- Anti-HCV positivity is high
 - People who Inject Drugs (PWIDs)
 - Dialysis patients
 - Multiple Blood transfusions
 - Health care workers

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Hepatitis C...

- High chronicity potential (80%)
- Important cause for cirrhosis and Hepatocellular carcinoma
- Viral genotypes (1-6)
- In India:
 - Genotype 3 (70%) and 1 (29%) are common

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Transmission- HCV



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Infrequent modes of Transmission



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Clinical Manifestations

- Fatigue
- Dark orange-coloured urine or clay coloured stool
- Fever
- Jaundice
- Joint pain, body aches or weakness
- Loss of appetite, nausea, Vomiting
- Pain in the right side of abdomen

Diagnosis

- **Enzyme immunoassay:** This test checks for HCV anti bodies
- **Genotyping:** Blood test that tests the genotype of the hepatitis C virus
- **Hepatitis C profile serological test:** This checks the number and activity of HCV in the blood
- **Liver biopsy:** Small piece of liver is removed and sent to a lab for tests
- **Liver function tests:** to check the enzymes and other substances made in the liver

Treatment -HCV

- Hepatitis C is curable
- Effective Direct acting antivirals (DAAs)
- Genotype based treatment regimens
- Three pan-genotypic regimens approved by WHO
- Treatment duration: 12-24 weeks

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Treatment of Hepatitis C infection

Regime type	Category of patients	Regime recommended	Duration of Treatment
I	Patient without cirrhosis (uncomplicated)	Sofosbuvir (400mg) & Daclatasvir (60mg)	84 days (12 wks)
II	Patient with cirrhosis-compensated	Sofosbuvir (400mg) + Velpatasvir (100mg)	84 days (12 wks)
III	Patient with cirrhosis-decompensated	Sofosbuvir(400mg) + Velpatasvir (100mg) & Ribavirin (600-1200mg)	84 days (12 wks)
		In Ribavirin intolerant patients – Sofosbuvir (400mg) + Velpatasvir (100mg)	168 days (24 wks)

Prevention of HCV



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-C>

Hepatitis D

- Defective RNA virus
- Requires HBV replication for its multiplication
- Occurs as co- or super-infection with HBV
- Leads to severe course of liver disease
- Chronicity

<https://www.who.int/news-room/fact-sheets/detail/hepatitis-d>

Diagnosis

- The diagnosis of HDV can be made by PCR, IgG anti-HDV, or IgM anti-HDV.

Treatment

- In acute HDV, supportive care is given.
- For chronic HDV, high-dose interferon alfa (IFN- α) with or without Tenofovir may be used.

Prevention of HDV



<https://www.who.int/news-room/fact-sheets/detail/hepatitis-d>

Nursing Management



**Patient
Education**



Counselling



**Inpatient
management**



**Monitoring
for
Complications**



Complications

Cirrhosis



**Liver
failure**



**Hepatocellular
carcinoma**



- <https://youtu.be/vqvSG9hqGUs>

Summary of HBV, HCV & HDV

Transmitted through
Infected blood
& bodily fluids

HDV occurs
with HBV (5%)

Can be acute &
chronic. Mostly
chronic & can
cause HCC

HBV majorly
transmits through
Mother to child



HCV commonly
transmits
through sharing
of needles.

HBV requires life-
long Treatment,
HCV is curable with
12-24wks treatment

HBV is vaccine
preventable but
HCV isn't

Take home message

Follow Preventive Strategies

Treat all patients as potentially infectious

Don't stigmatise the patients



Thank you

