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# Inflammatory bowel diseases

Presented By;-

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# 1. Jaundice

S.No	Aspect	Description
1	<b>Definition</b>	Jaundice is a clinical condition characterized by yellowish discoloration of skin, sclera, and mucous membranes due to increased bilirubin in blood
2	<b>Normal bilirubin level</b>	0.2 – 1.2 mg/dL
3	<b>Jaundice appears when</b>	Serum bilirubin > 2–3 mg/dL
4	<b>Main pigment involved</b>	Bilirubin
5	<b>Clinical significance</b>	Indicates underlying liver, hemolytic, or biliary disease

## I. Etiology of Jaundice

S.No	Type	Etiology
1	<b>Pre-hepatic</b>	Hemolytic anemia, malaria, sickle cell disease, transfusion reaction
2	<b>Hepatic</b>	Viral hepatitis, cirrhosis, alcoholic liver disease, drug-induced liver injury
3	<b>Post-hepatic</b>	Gallstones, pancreatic cancer, bile duct tumors, biliary strictures

## Pathogenesis of Jaundice – Flowchart



## II. Diagnostic Tests of Jaundice

S.No	Test	Purpose
1	Serum bilirubin (Total, Direct, Indirect)	Confirms jaundice type
2	Liver function tests (AST, ALT, ALP)	Assess liver damage
3	Complete blood count (CBC)	Detect hemolysis
4	Prothrombin time (PT/INR)	Liver synthetic function
5	Ultrasound abdomen	Detect biliary obstruction
6	CT / MRI	Identify tumors or strictures
7	Viral markers (HBsAg, Anti-HCV)	Detect viral hepatitis

## III. Treatment of Jaundice

S.No	Type	Treatment
1	Pre-hepatic	Treat underlying hemolysis, blood transfusion if needed
2	Hepatic	Antiviral drugs, hepatoprotective therapy, avoid alcohol
3	Post-hepatic	Surgical removal of gallstones, biliary stenting
4	Supportive	Adequate nutrition, vitamins, fluids
5	Severe cases	Liver transplantation (if indicated)

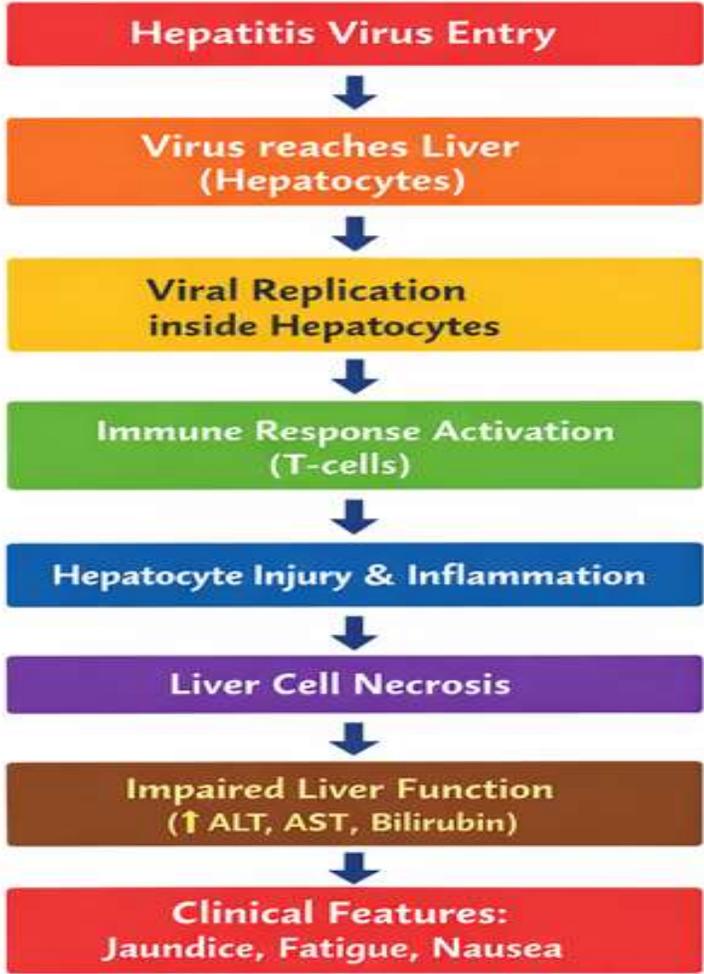
## 2. Hepatitis

S.No	Aspect	Description
1	<b>Definition</b>	Hepatitis is inflammation of the liver resulting in liver cell injury and dysfunction
2	<b>Nature</b>	Can be acute or chronic
3	<b>Common Causes</b>	Viral infections, alcohol, drugs, toxins, autoimmune disorders
4	<b>Affected Organ</b>	Liver
5	<b>Outcome</b>	May progress to cirrhosis, liver failure, or hepatocellular carcinoma

### I. Etiology of Hipatitis

S.No	Category	Etiological Factors
1	<b>Viral</b>	Hepatitis A, B, C, D, E viruses
2	<b>Alcoholic</b>	Chronic alcohol consumption
3	<b>Drug-induced</b>	Paracetamol, anti-TB drugs, antibiotics
4	<b>Toxic</b>	Chemicals, poisons
5	<b>Autoimmune</b>	Autoantibody-mediated liver injury
6	<b>Metabolic</b>	Wilson's disease, hemochromatosis
7	<b>Ischemic</b>	Reduced liver blood flow

## Pathogenesis of Hepatitis



## II. Comparison of hepatitis (A,B,C,D,E)

Feature	Hepatitis A (HAV)	Hepatitis B (HBV)	Hepatitis C (HCV)	Hepatitis D (HDV)	Hepatitis E (HEV)
<b>Transmission</b>	Fecal-oral (contaminated food/water)	Bodily fluids (blood, semen, vaginal secretions)	Blood-to-blood contact (sharing needles)	Blood/bodily fluids; requires HBV to replicate	Fecal-oral (contaminated water, undercooked pork)
<b>Type of Infection</b>	Acute (short-term) only	Acute or Chronic	Acute or Chronic (most become chronic)	Acute or Chronic (superinfection)	Usually Acute; Chronic in immunocompromised
<b>Incubation Period</b>	15–50 days	45–160 days	14–180 days	2–8 weeks	15–60 days
<b>Vaccine Available</b>	Yes (highly effective)	Yes (standard childhood vaccine)	No vaccine available	No (protected by HBV vaccine)	Yes (available in some countries like China)
<b>Primary Treatment</b>	Supportive care (rest, hydration)	Antiviral medications for chronic cases	Highly effective antiviral "cures" (>95%)	Pegylated interferon; newer therapies	Usually resolves on its own; ribavirin for chronic
<b>Long-term Risks</b>	None (lifelong immunity after recovery)	Cirrhosis, liver cancer, liver failure	Cirrhosis, liver cancer, liver failure	Rapidly progressive liver damage	Generally low; high risk for pregnant women

### III. Diagnostic Tests for Hipatitis

S.No	Test	Diagnostic Significance
1	Liver Function Tests (LFTs)	↑ ALT, AST, bilirubin
2	Viral Serology	Detection of viral antigens & antibodies
3	HBsAg	Confirms Hepatitis B
4	Anti-HCV	Confirms Hepatitis C
5	PCR (Viral Load)	Measures viral replication
6	Ultrasound	Liver enlargement, fatty changes
7	Liver Biopsy	Confirms chronic hepatitis & fibrosis

### IV. Treatment of Hepatitis

S.No	Type	Treatment
1	Hepatitis A & E	Supportive care, rest, hydration
2	Hepatitis B	Antivirals (Tenofovir, Entecavir), interferon
3	Hepatitis C	Direct-acting antivirals (Sofosbuvir, Ledipasvir)
4	Alcoholic Hepatitis	Alcohol abstinence, corticosteroids
5	Autoimmune Hepatitis	Corticosteroids, immunosuppressants
6	Drug-induced	Discontinuation of offending drug
7	Severe Cases	Liver transplantation

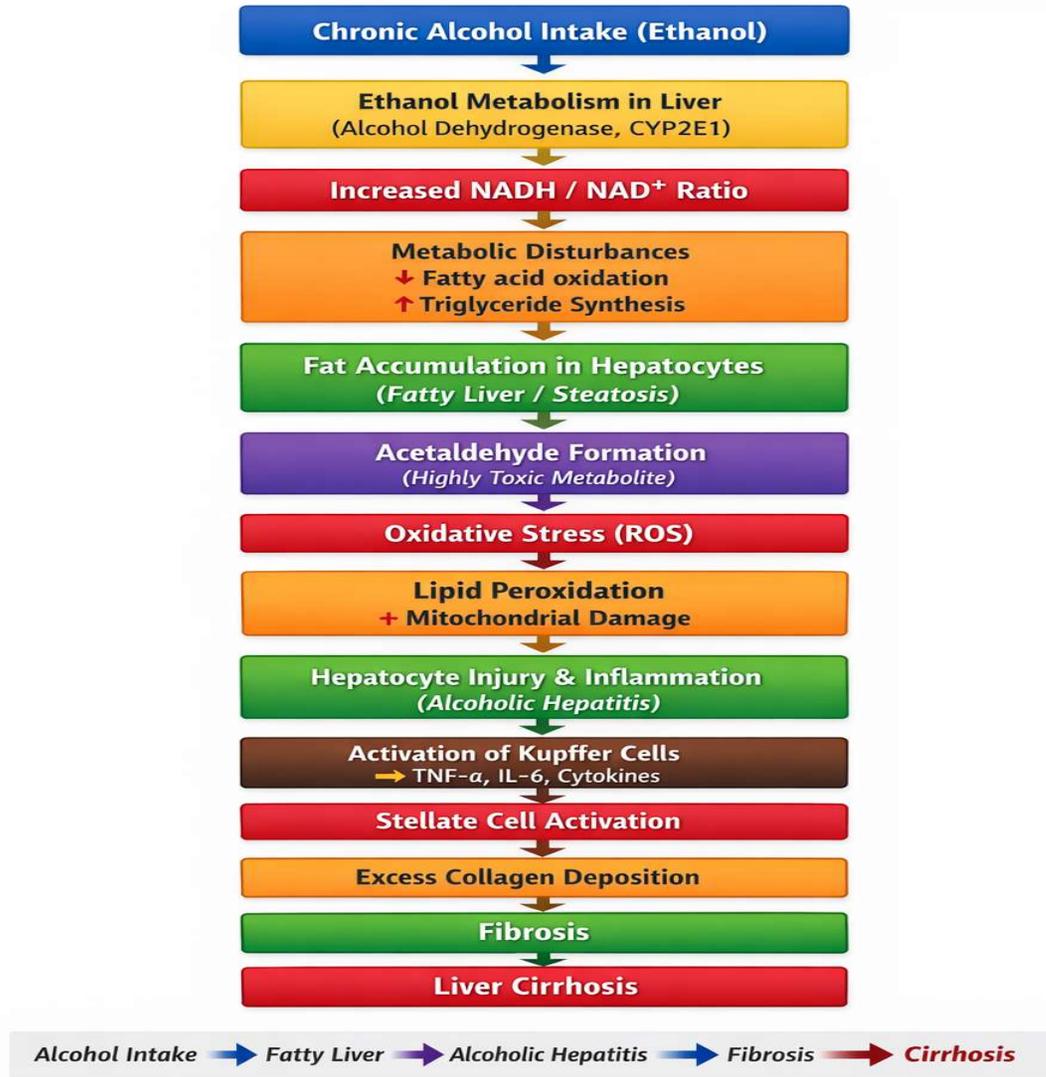
## 3. Alcoholic Liver Disease

S.No	Aspect	Description
1	<b>Definition</b>	Alcoholic Liver Disease is a spectrum of liver disorders caused by chronic and excessive alcohol consumption
2	<b>Spectrum</b>	Fatty liver → Alcoholic hepatitis → Alcoholic cirrhosis
3	<b>Major Cause</b>	Long-term alcohol abuse
4	<b>Reversibility</b>	Early stages are reversible with abstinence
5	<b>Risk Factors</b>	Quantity & duration of alcohol intake, genetics, malnutrition
6	<b>Common Population</b>	Chronic alcohol users

### I. Etiology of Alcoholic Liver Disease

S.No	Cause	Mechanism
1	<b>Chronic alcohol intake</b>	Direct hepatotoxicity
2	<b>Acetaldehyde toxicity</b>	Protein adduct formation
3	<b>Oxidative stress</b>	Lipid peroxidation
4	<b>Malnutrition</b>	Reduced liver repair
5	<b>Genetic susceptibility</b>	Variations in alcohol metabolism
6	<b>Immune response</b>	Cytokine-mediated injury

## Pathogenesis of Alcoholic Liver Disease



## II. Diagnostic Tests for Alcoholic Liver Disease

S.No	Test	Findings
1	Liver Function Tests (LFTs)	↑ AST, ↑ ALT (AST:ALT > 2)
2	Serum Bilirubin	Elevated
3	Prothrombin Time (PT/INR)	Prolonged
4	Ultrasound Abdomen	Fatty liver, cirrhosis
5	FibroScan	Assesses fibrosis
6	Liver Biopsy	Confirms diagnosis
7	Serum Albumin	Decreased in chronic disease

## III. Treatment of Alcoholic Liver Disease

S.No	Management	Description
1	Alcohol Abstinence	Most important treatment
2	Nutritional Therapy	High-protein, vitamins
3	Corticosteroids	Severe alcoholic hepatitis
4	Pentoxifylline	Reduces TNF- $\alpha$
5	Antioxidants	Reduce oxidative damage
6	Management of Complications	Ascites, varices, encephalopathy
7	Liver Transplantation	End-stage liver disease



# Thank You

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