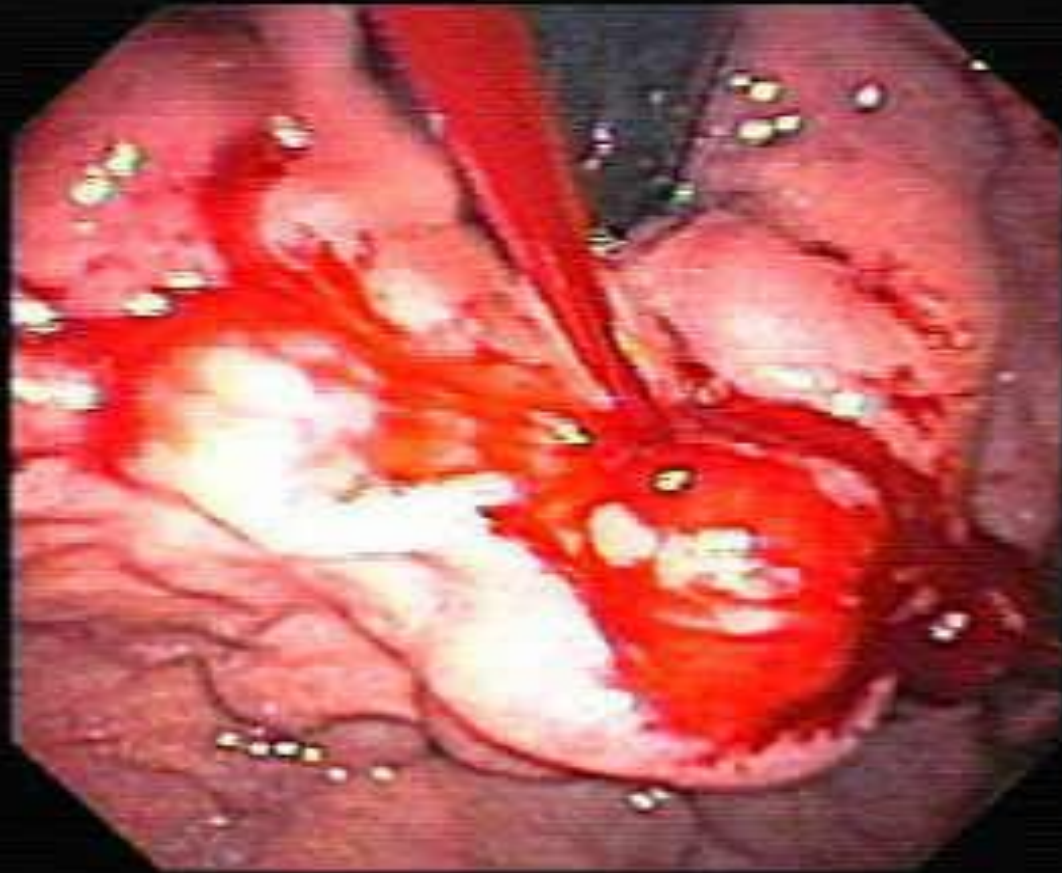


# Upper GI bleeding



DR. MURRA



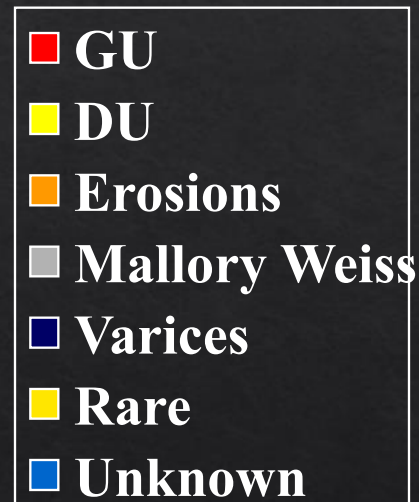
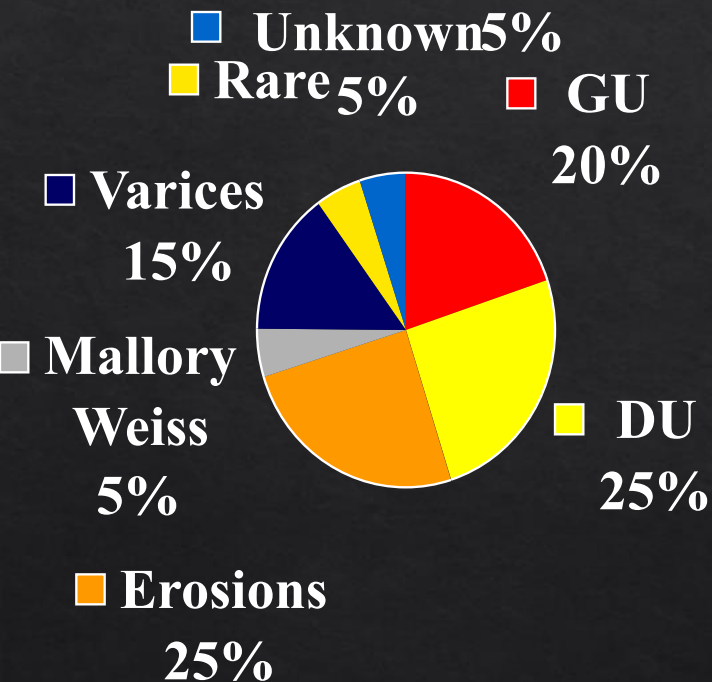
# UPPER GI BLEEDING

## Signs and Symptoms

- ◇ Hematemesis
- ◇ Melena
- ◇ Dizziness
- ◇ Abd. Pain and symptoms of Peptic ulcer disease
- ◇ Hx of NSAID's use
- ◇ Pallor
- ◇ Hypotension
- ◇ Orthostasis
- ◇ Jaundice and other stigmata of chronic liver diseases



# UPPER GI BLEEDING CAUSES



## RARE CAUSES

- Neoplasms
- AVM/Ectasia
- Dieulafoy's
- Stoma ulcers
- Esophageal ulcers
- Deodenitis
- Hemobilia
- Aorto-enteric fistulas



# UPPER GI BLEEDING

## Peptic Ulcer Disease

- ◇ Defect in the GI mucosa extending through the muscularis mucosa.
- ◇ Decreasing incidence.
- ◇ Caused by imbalance between the aggressive and defensive factors.



# UPPER GI BLEEDING

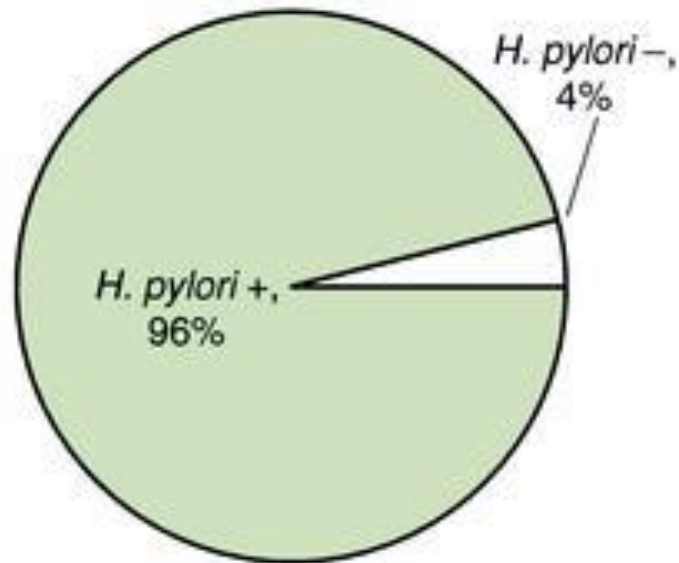
## Peptic Ulcer Disease

- ◇ Helicobacter Pylori
- ◇ NSAID's
- ◇ Acid Hypersecretory state.
- ◇ Antral G cell Hyperplasia

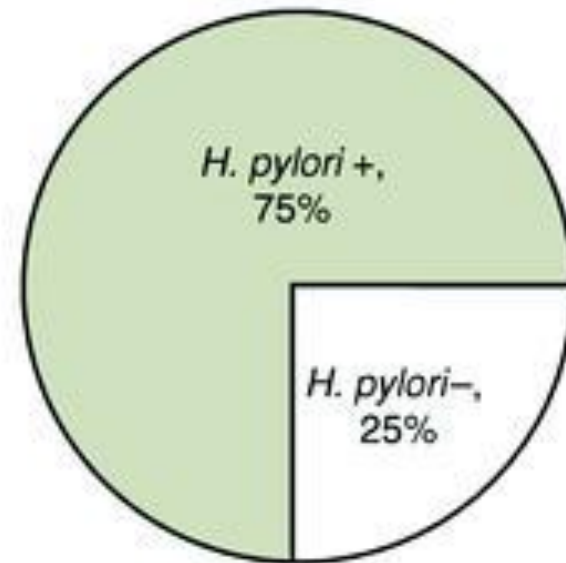


# UPPER GI BLEEDING

## Peptic Ulcer Disease



Duodenal ulcer

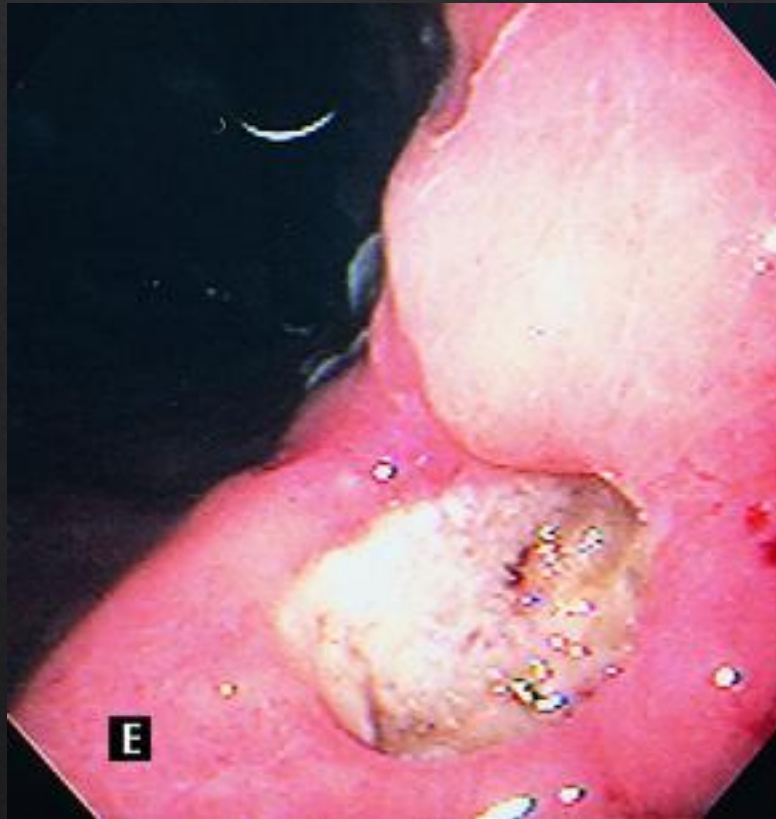


Gastric ulcer



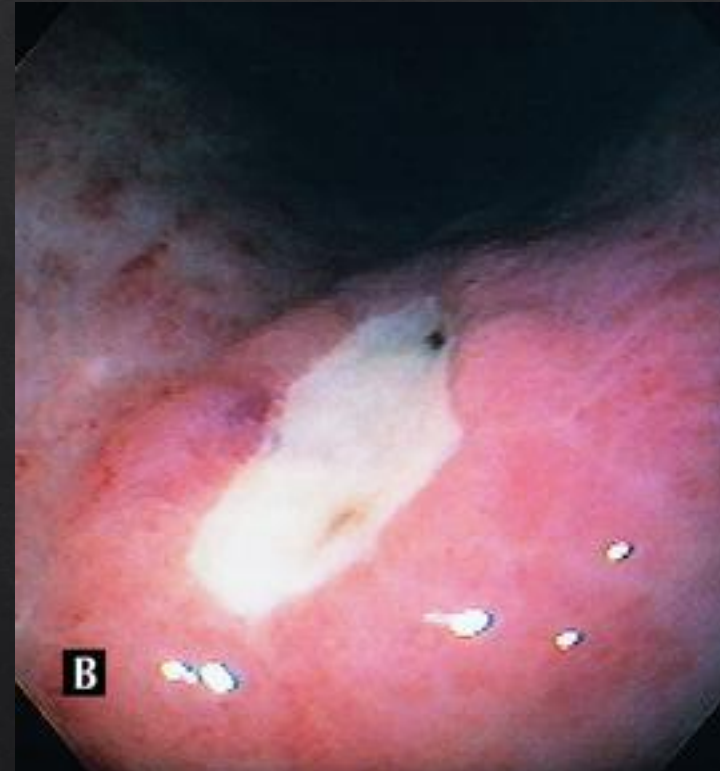
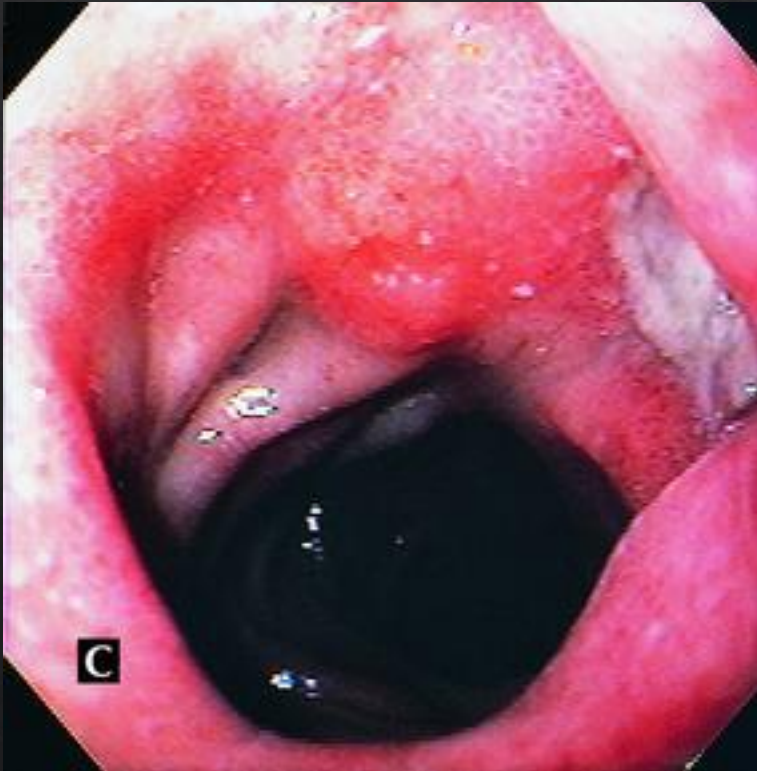
# UPPER GI BLEEDING

## Gastric Ulcers



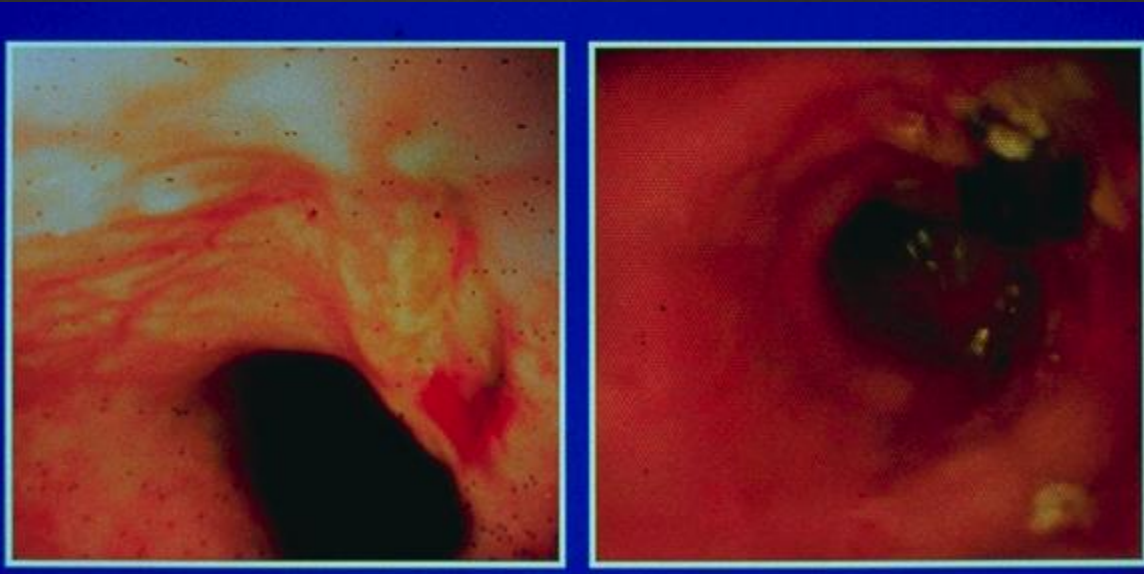
# UPPER GI BLEEDING

## Duodenal Ulcers



# UPPER GI BLEEDING

Mallory - Weiss



Laceration around the GE junction

Classical presentation as bleeding after episode of vomiting

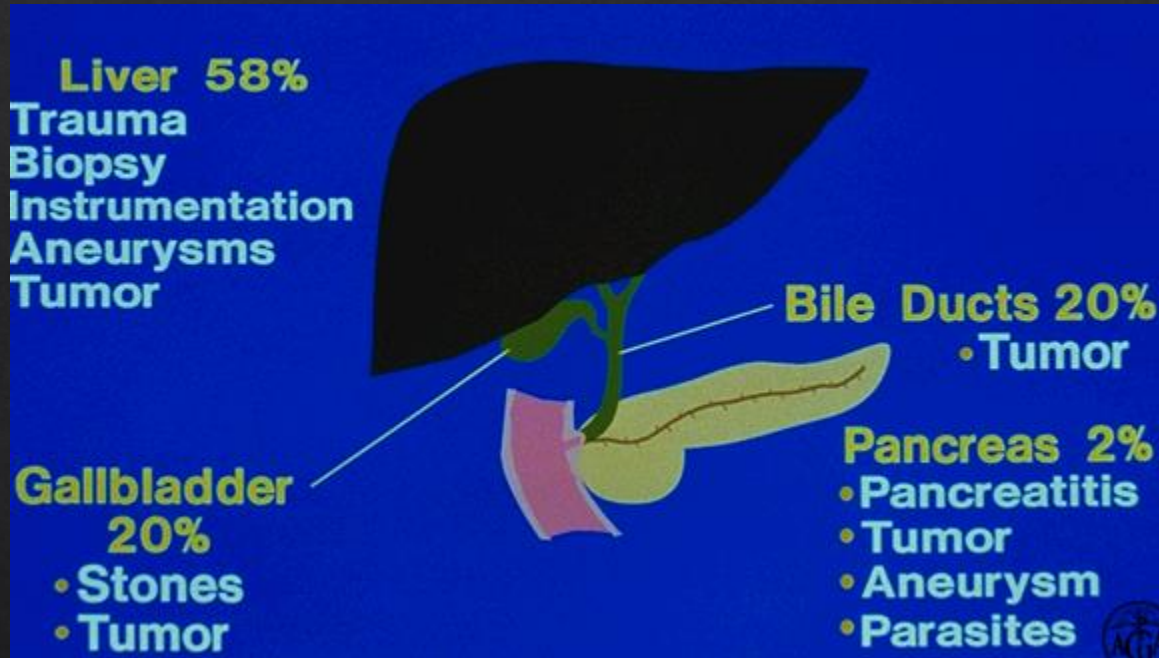
Classical presentation found in 50% only

Self- limiting



# UPPER GI BLEEDING

## Hemobilia



# UPPER GI BLEEDING

Hemobilia



# UPPER GI BLEEDING

stress ulcers

- Caused by Vagal hyperstimulation and vascular hypoperfusion.
- Body and fundus more affected
  - Multiple
- Prophylaxis is indicated in critically ill ICU patients



Curling Extensive burn

Cushing Head Injury

ity of Jordan



# UPPER GI BLEEDING

## BLEEDING ESOPHAGEAL VARICEAL



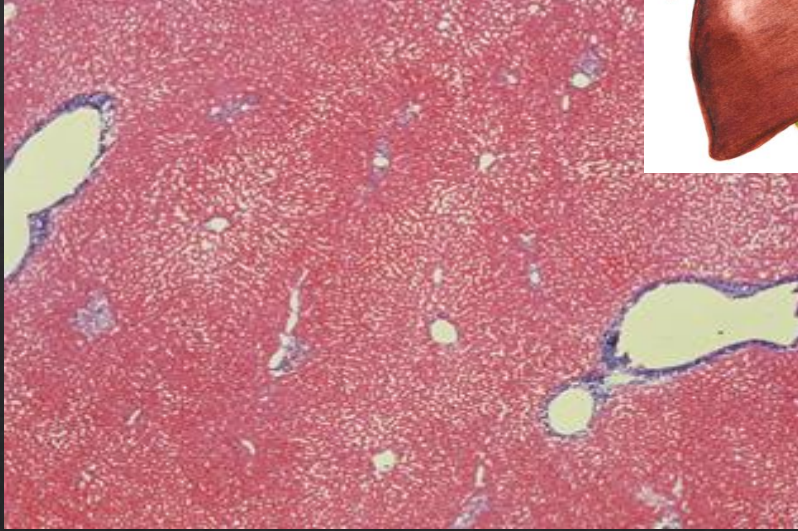
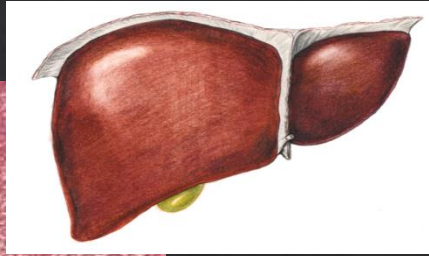
- Dilated tortuous veins of the lower and mid esophagus.
- Secondary to portal HTN
- 30% mortality after the first episode.
- 60% Rebleeding rate



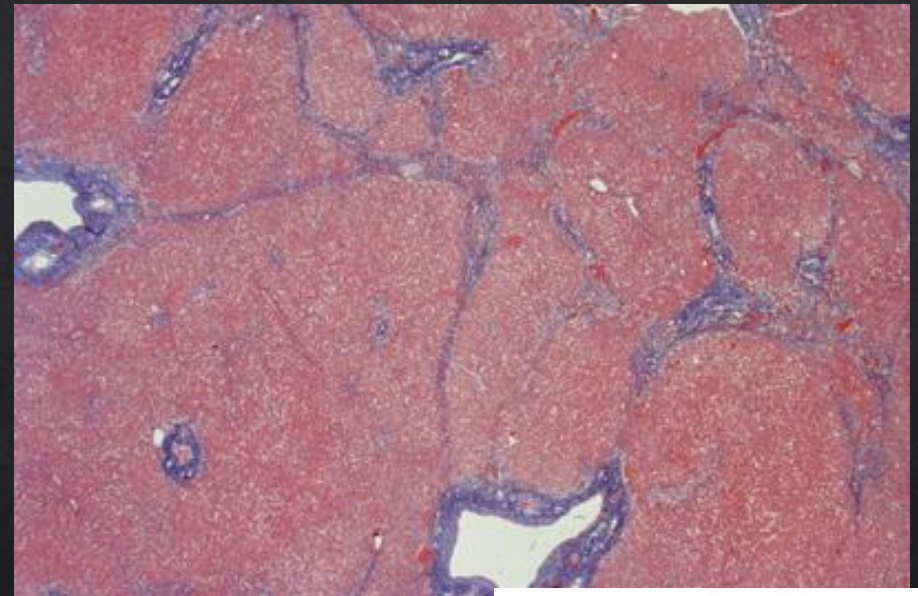
# Cirrhosis and Portal hypertension



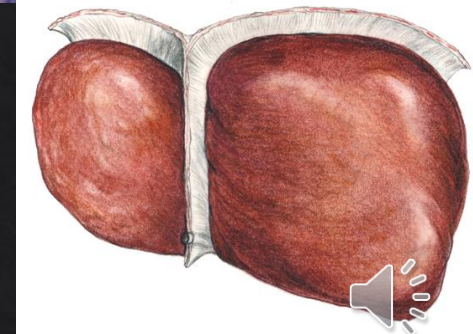
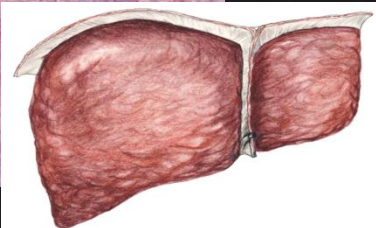
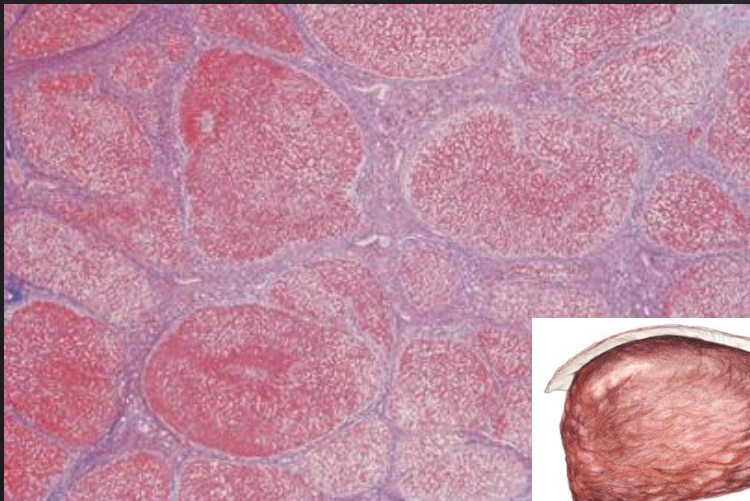
## Healthy Liver



## Liver Fibrosis



## Cirrhosis





## Jaundice

Accumulation of bilirubin in the blood stream causing yellowish discoloration of plasma and heavily perfused tissues







## Spider Angiomas

Small, centrally raised bumps (papules) caused by a dilated arteriole (small artery). A network of dilated capillaries (tiny blood vessels) radiate from the arteriole. Pressing on the lesion causes the redness to disappear briefly, and there is a rapid return of redness once the pressure is lifted.



## Finger Clubbing

a condition where there is enlargement of the terminal end of the digit over the distal phalanx.

It is usually symmetrical and affects the fingers





Gynecomastia

Breast development in men





## Dupuytren's Contractures

Joint contractures



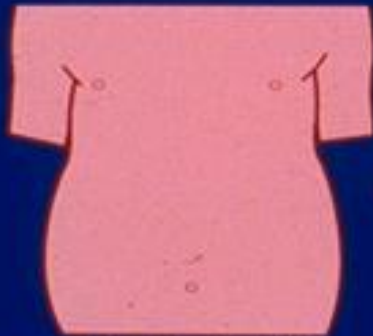
# Complications of Cirrhosis



**Hepatic encephalopathy**



**Portal hypertension**



**Ascites/SBP**



**Hepatorenal syndrome**

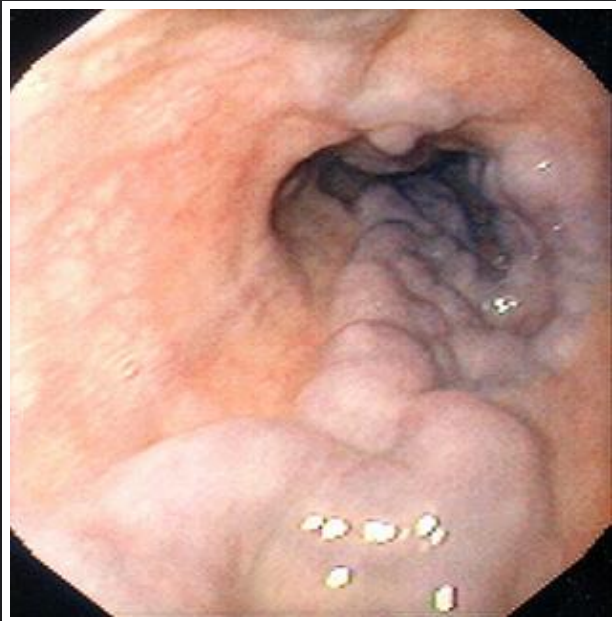


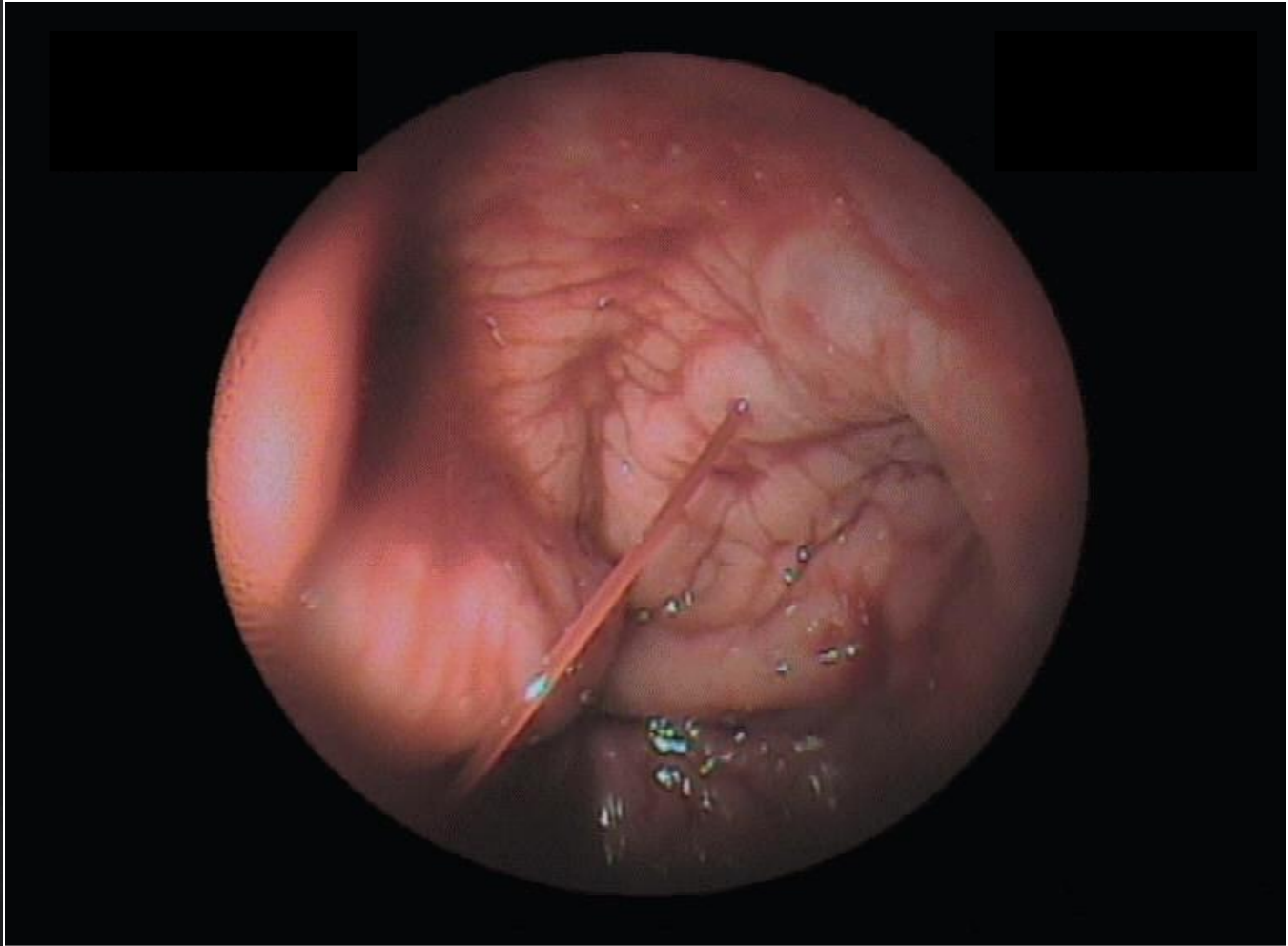


## Caput Medusae

Distended and engorged umbilical veins which are seen radiating from the umbilicus across the abdomen to join systemic veins.

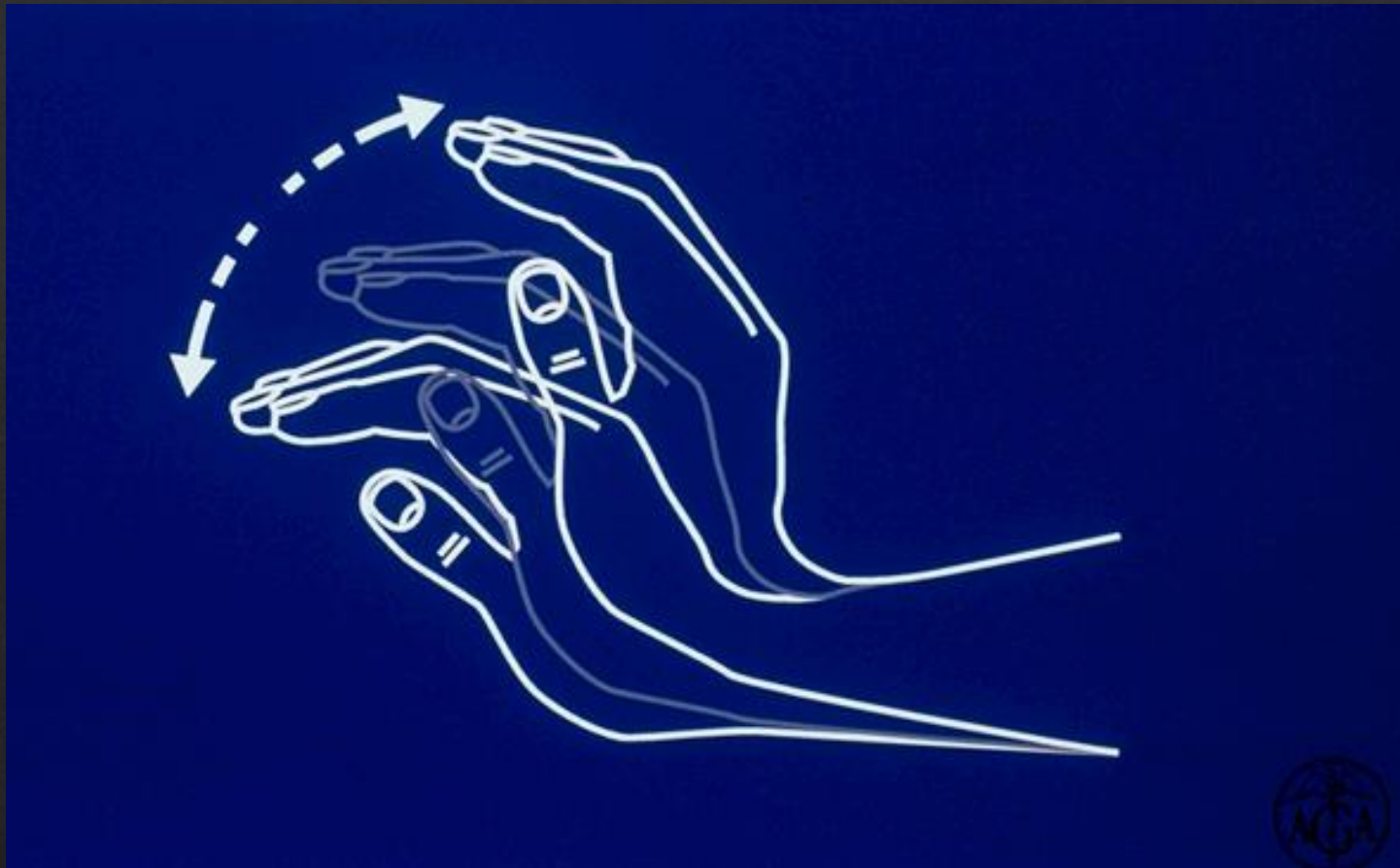










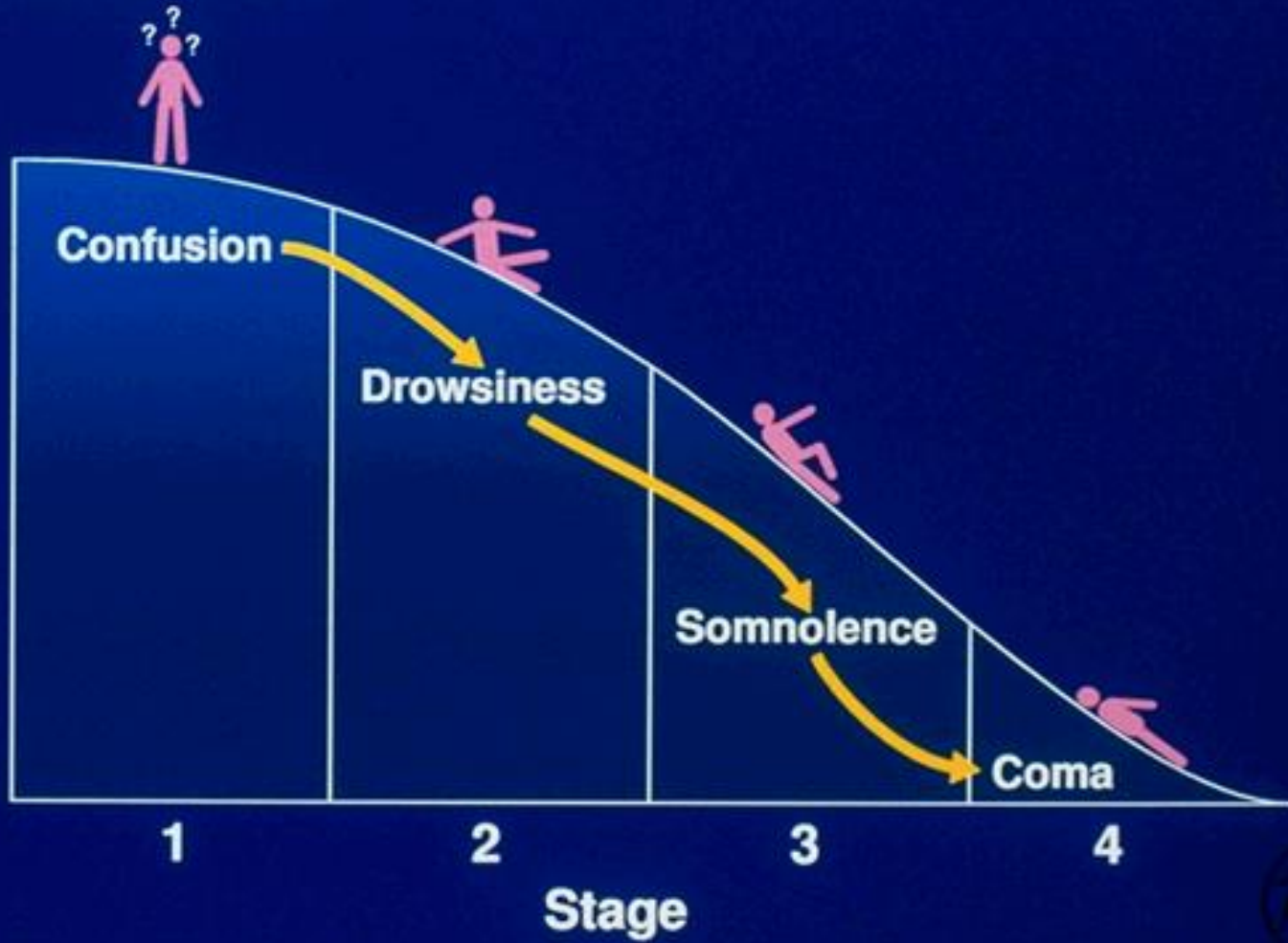


## Astraxia

Flapping tremors, quick arrhythmic movement in background tonic muscle contraction



# HEPATIC ENCEPHALOPATHY



# Hepatitis A-E Viruses

## An Overview

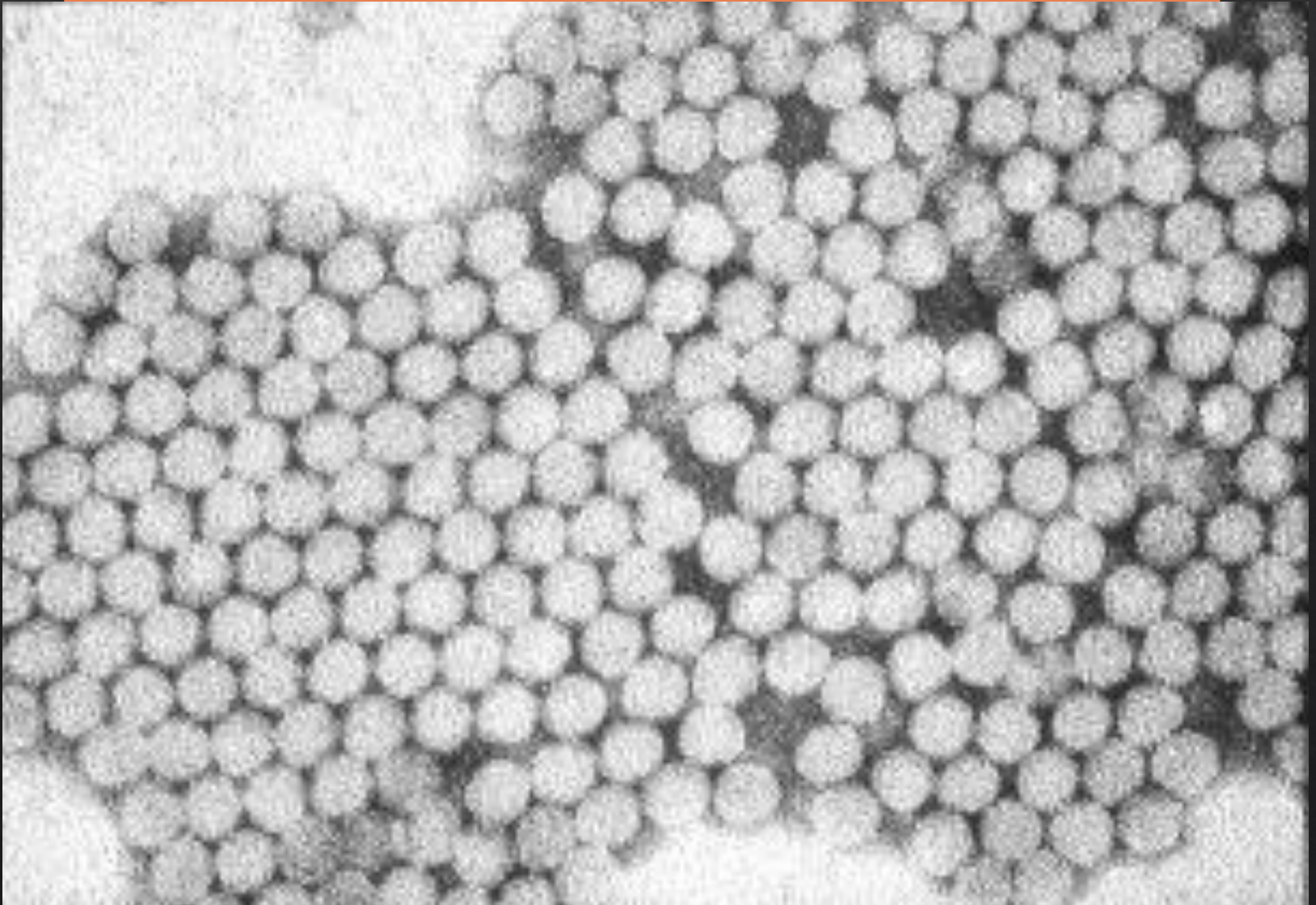


# Type of Hepatitis

|                       | A                                     | B                                      | C  | D   | E                                |
|-----------------------|---------------------------------------|--|--|---|----------------------------------|
| Source of virus       | feces                                 | blood/<br>blood-derived<br>body fluids | blood/<br>blood-derived<br>body fluids                     | blood/<br>blood-derived<br>body fluids                                  | feces                            |
| Route of transmission | fecal-oral                            | percutaneous<br>permucosal             | percutaneous<br>permucosal                                 | percutaneous<br>permucosal  | fecal-oral                       |
| Chronic infection     | no                                    | yes                                    | yes  | yes   | no                               |
| Prevention            | pre/post-<br>exposure<br>immunization | pre/post-<br>exposure<br>immunization  | blood donor<br>screening;<br>risk behavior<br>modification | pre/post-<br>exposure<br>immunization;<br>risk behavior<br>modification | ensure safe<br>drinking<br>water |



# Hepatitis A Virus



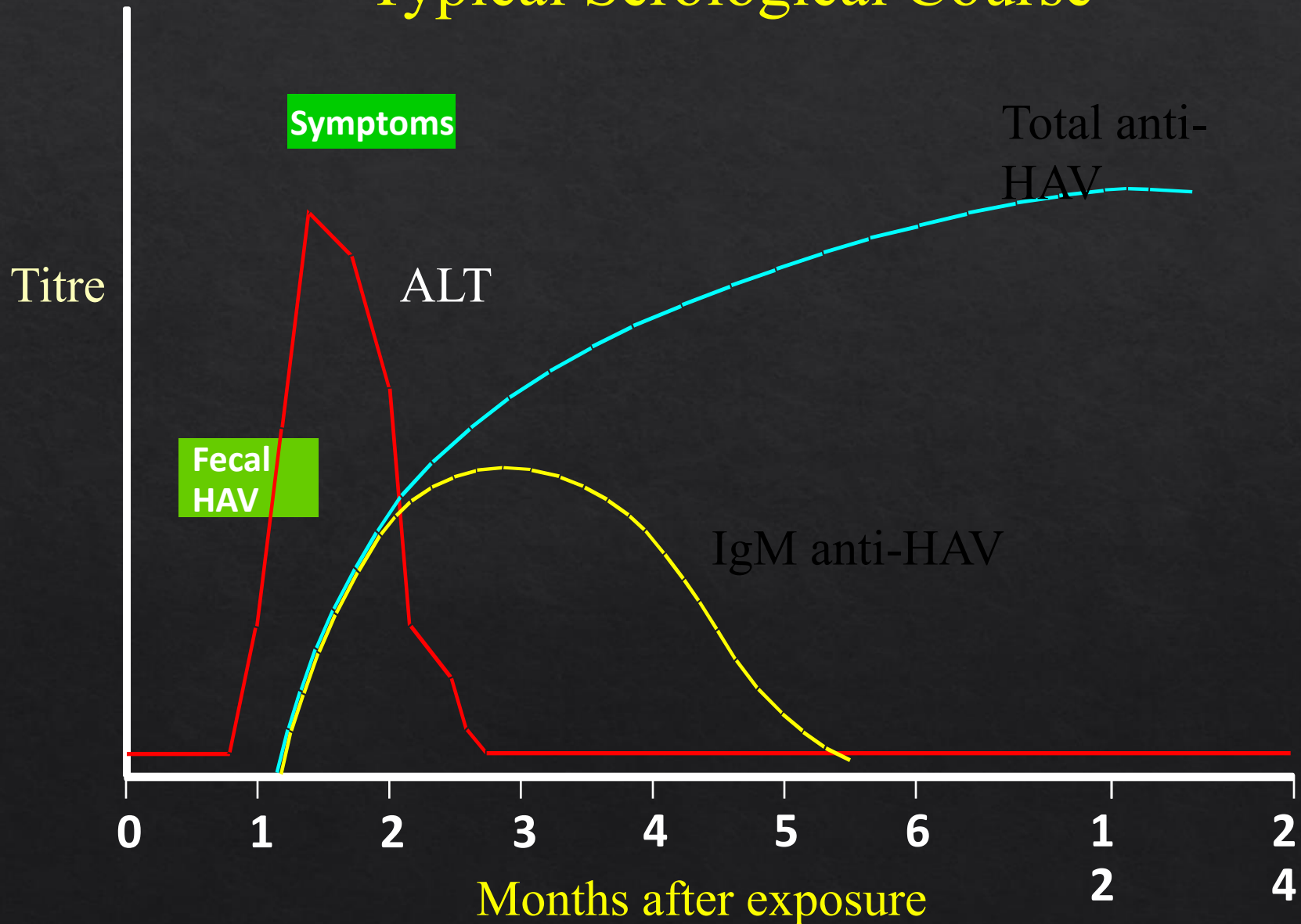
# Hepatitis A - Clinical Features

- Incubation period: Average 30 days  
Range 15-50 days
- Jaundice by age group:
  - <6 yrs, <10%
  - 6-14 yrs, 40%-50%
  - >14 yrs, 70%-80%
- Complications: Fulminant hepatitis  
Cholestatic hepatitis  
Relapsing hepatitis
- Chronic sequelae: None



# Hepatitis A Infection

## Typical Serological Course



# Hepatitis A Virus Transmission

- ◇ Close personal contact  
(e.g., household contact, sex contact, child day care centers)
- ◇ Contaminated food, water  
(e.g., infected food handlers, raw shellfish)
- ◇ Blood exposure (rare)  
(e.g., injecting drug use, transfusion)

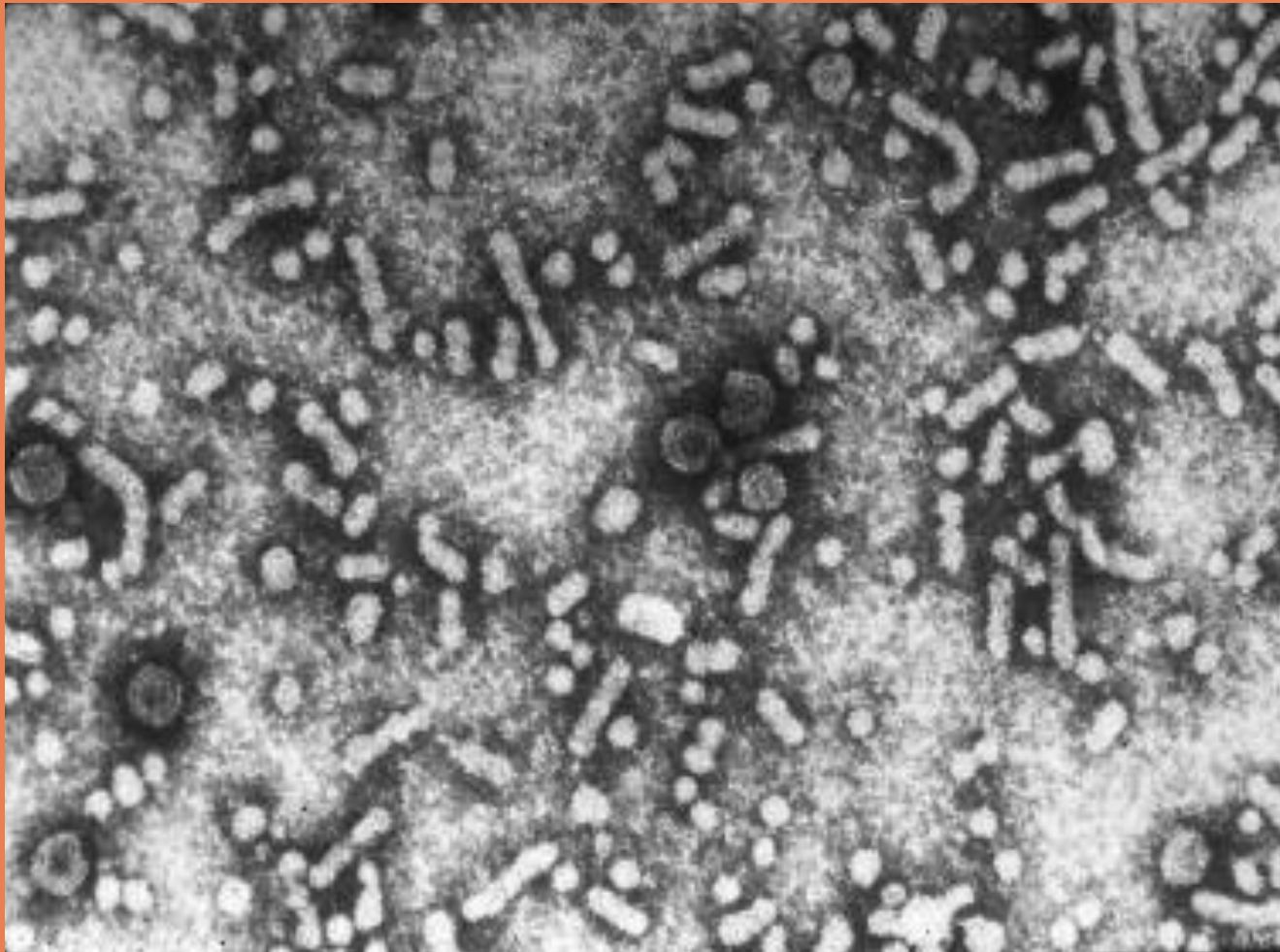


# Laboratory Diagnosis

- ◇ Acute infection is diagnosed by the detection of HAV-IgM in serum by EIA.
- ◇ Past Infection i.e. immunity is determined by the detection of HAV-IgG by EIA.



# Hepatitis B Virus



# Hepatitis B - Clinical Features

- Incubation period: Average 60-90 days  
Range 45-180 days
- Clinical illness (jaundice): <5 yrs, <10%  
5 yrs, 30%-50%
- Acute case-fatality rate: 0.5%-1%
- Chronic infection: <5 yrs, 30%-90%  
5 yrs, 2%-10%
- Premature mortality from chronic liver disease: 15%-25%

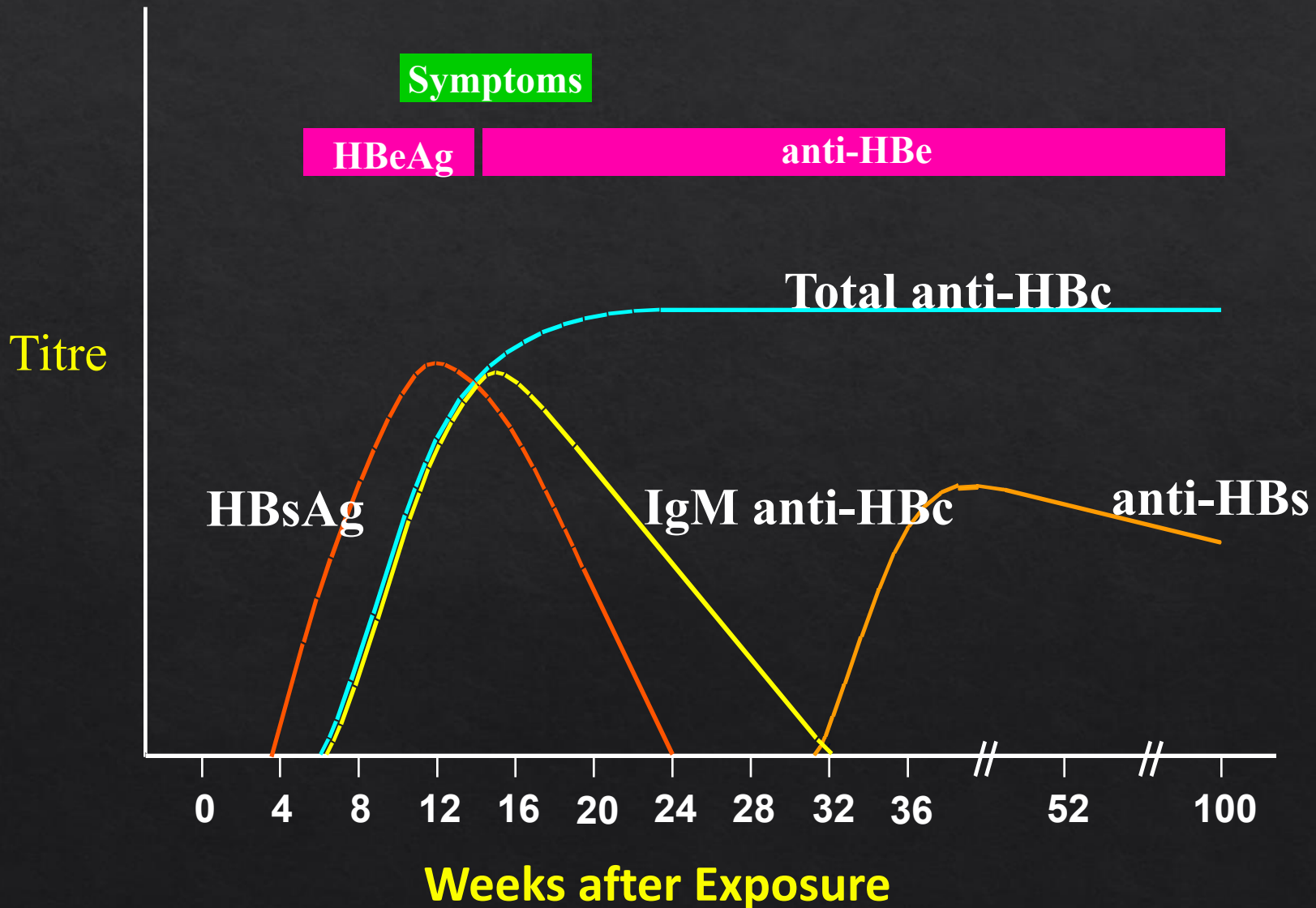


# Spectrum of Chronic Hepatitis B Diseases

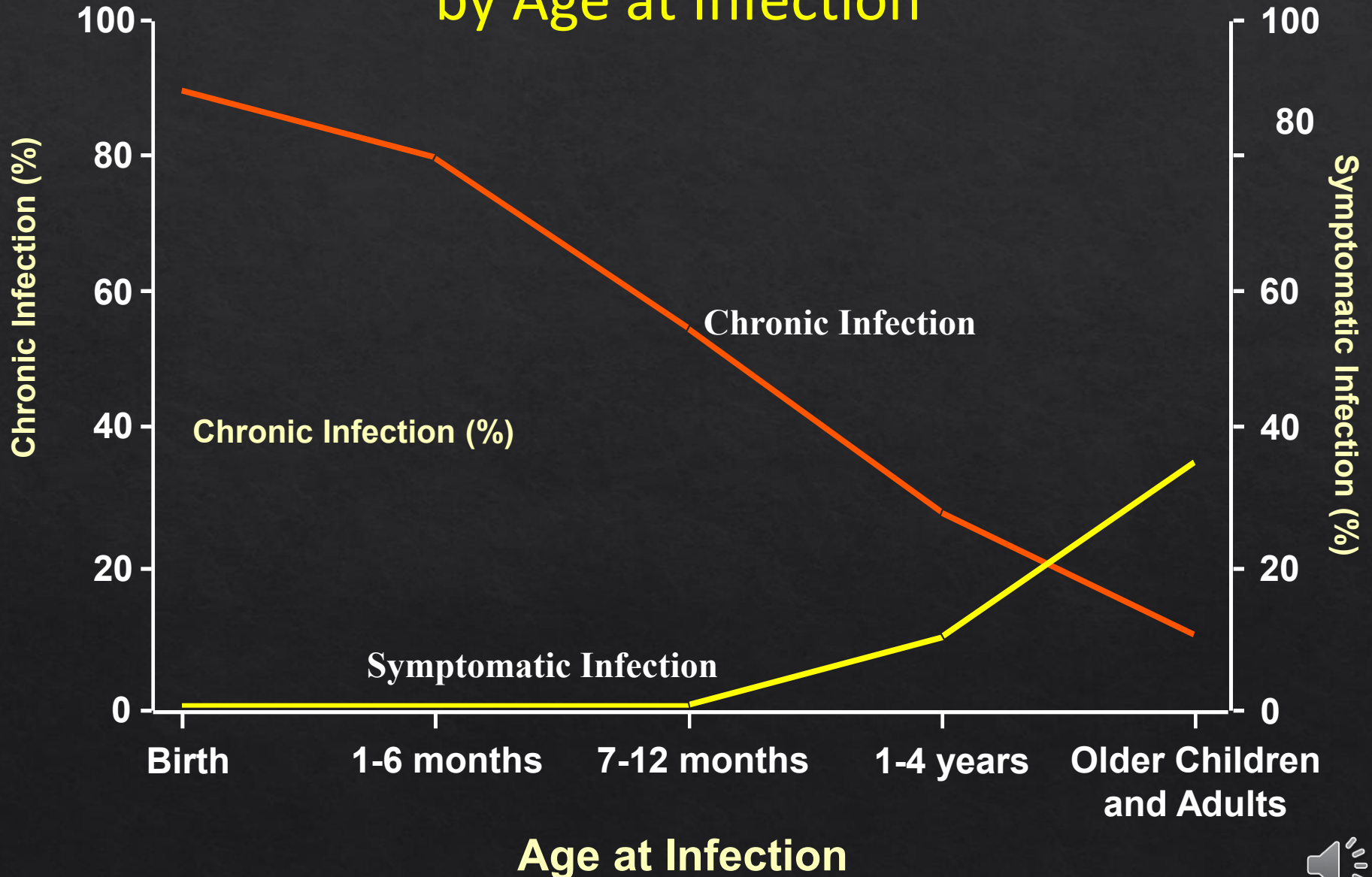
1. Chronic Persistent Hepatitis - asymptomatic
2. Chronic Active Hepatitis - symptomatic exacerbations of hepatitis
3. Cirrhosis of Liver
4. Hepatocellular Carcinoma



# Acute Hepatitis B Virus Infection with Recovery Typical Serologic Course



# Outcome of Hepatitis B Virus Infection by Age at Infection



# Concentration of Hepatitis B Virus in Various Body Fluids

| <b>High</b>    | <b>Moderate</b> | <b>Low/Not Detectable</b> |
|----------------|-----------------|---------------------------|
| blood          | semen           | urine                     |
| serum          | vaginal fluid   | feces                     |
| wound exudates | saliva          | sweat                     |
|                |                 | tears                     |
|                |                 | breastmilk                |



# Hepatitis B Virus

## Modes of Transmission

- Sexual - sex workers and homosexuals are particular at risk.
- Parenteral - IVDA, Health Workers are at increased risk.
- Perinatal - Mothers who are HBeAg positive are much more likely to transmit to their offspring than those who are not. Perinatal transmission is the main means of transmission in high prevalence populations.



# Diagnosis

- ◇ A battery of serological tests are used for the diagnosis of acute and chronic hepatitis B infection.
- ◇ HBsAg - used as a general marker of infection.
- ◇ HBsAb - used to document recovery and/or immunity to HBV infection.
- ◇ anti-HBc IgM - marker of acute infection.
- ◇ anti-HBcIgG - past or chronic infection.
- ◇ HBeAg - indicates active replication of virus and therefore infectiveness.
- ◇ Anti-Hbe - virus no longer replicating. However, the patient can still be positive for HBsAg which is made by integrated HBV.
- ◇ HBV-DNA - indicates active replication of virus, more accurate than HBeAg especially in cases of escape mutants. Used mainly for monitoring response to therapy.

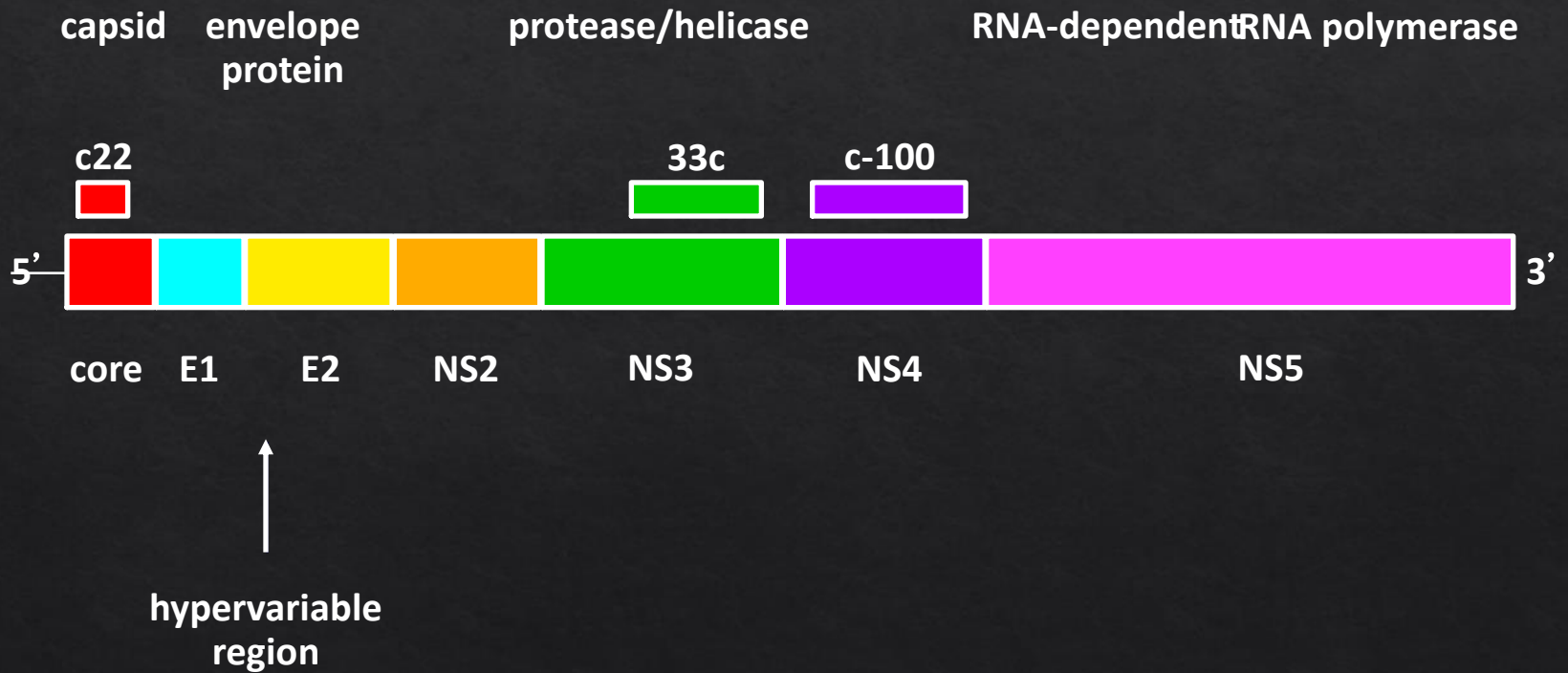


# Prevention

- ◇ Vaccination - highly effective recombinant vaccines are now available. Vaccine can be given to those who are at increased risk of HBV infection such as health care workers. It is also given routinely to neonates as universal vaccination in many countries.
- ◇ Hepatitis B Immunoglobulin - HBIG may be used to protect persons who are exposed to hepatitis B. It is particularly efficacious within 48 hours of the incident. It may also be given to neonates who are at increased risk of contracting hepatitis B i.e. whose mothers are HBsAg and HBeAg positive.
- ◇ Other measures - screening of blood donors, blood and body fluid precautions.



# Hepatitis C Virus



# Hepatitis C - Clinical Features

|                              |  |
|------------------------------|--|
| Incubation period:           | Average 6-7 wks<br>Range 2-26 wks                |
| Clinical illness (jaundice): | 30-40% (20-30%)                                  |
| Chronic hepatitis:           | 70%  |
| Persistent infection:        | 85-100%  |
| Immunity:                    | No protective<br>antibody<br>response identified |



# Chronic Hepatitis C Infection

- ◆ The spectrum of chronic hepatitis C infection is essentially the same as chronic hepatitis B infection.
- ◆ All the manifestations of chronic hepatitis B infection may be seen, albeit with a lower frequency i.e. chronic persistent hepatitis, chronic active hepatitis, cirrhosis, and hepatocellular carcinoma.



# **Risk Factors Associated with Transmission of HCV**

- **Transfusion or transplant from infected donor**
- **Injecting drug use**
- **Hemodialysis (yrs on treatment)**
- **Accidental injuries with needles/sharps**
- **Sexual/household exposure to anti-HCV-positive contact**
- **Multiple sex partners**
- **Birth to HCV-infected mother**



# Laboratory Diagnosis

- ◇ HCV antibody - generally used to diagnose hepatitis C infection. Not useful in the acute phase as it takes at least 4 weeks after infection before antibody appears.
- ◇ HCV-RNA - various techniques are available e.g. PCR and branched DNA. May be used to diagnose HCV infection in the acute phase. However, its main use is in monitoring the response to antiviral therapy.
- ◇ HCV-antigen - an EIA for HCV antigen is available. It is used in the same capacity as HCV-RNA tests but is much easier to carry out.

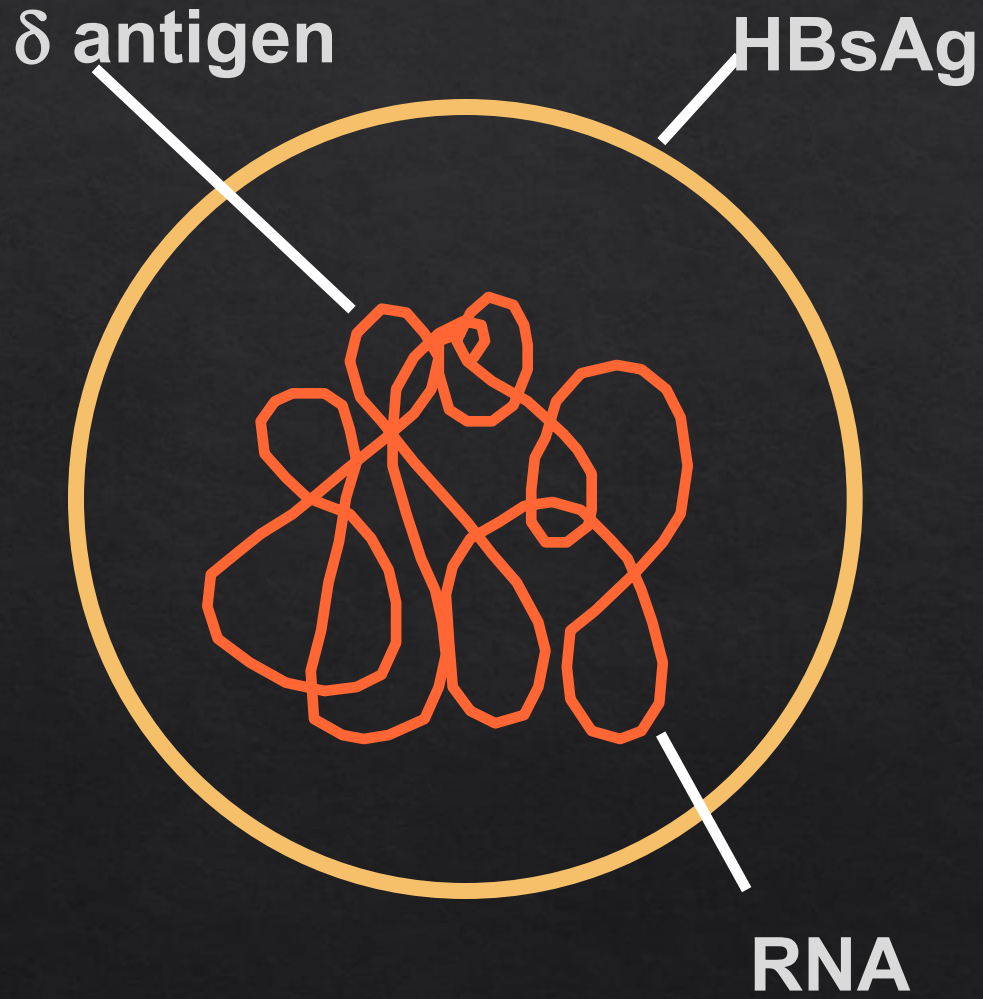


# Prevention of Hepatitis C

- Screening of blood, organ, tissue donors
- High-risk behavior modification
- Blood and body fluid precautions



# Hepatitis D (Delta) Virus



# Hepatitis D - Clinical Features

- Coinfection
  - severe acute disease.
  - low risk of chronic infection.
- Superinfection
  - usually develop chronic HDV infection.
  - high risk of severe chronic liver disease.
  - may present as an acute hepatitis.



# Hepatitis D Virus Modes of Transmission

- Percutaneous exposures
  - injecting drug use
- Per mucosal exposures
  - sex contact



# Hepatitis E Virus



# Hepatitis E - Clinical Features

- Incubation period: Average 40 days  
Range 15-60 days
- Case-fatality rate: Overall, 1%-3%  
Pregnant women,  
15%-25%
- Illness severity: Increased with age
- Chronic sequelae: None identified

