

Bilirubin and Jaundice

Presented By

Lecturer

Aseel Ghassan Daoud

***M.Sc. in Pharmacy/Clinical
Chemistry***

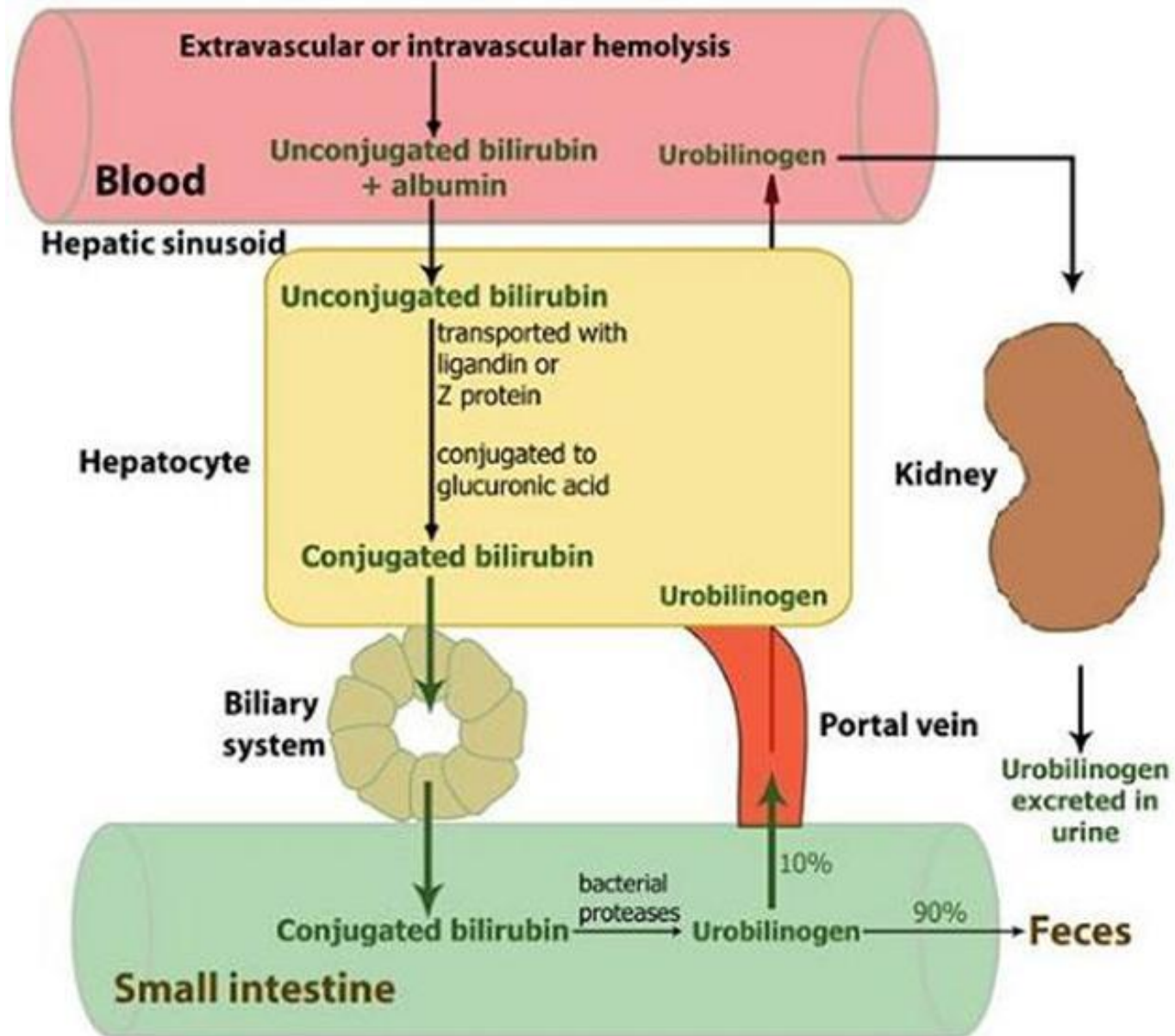
What is bilirubin?

- *It is a brownish yellow substance found in bile and it is produced during the breakdown of old RBCs then removed from the body through feces.*

How many forms of bilirubin are there?

- *There are two forms:*
 - *Conjugated (direct) bilirubin: water -soluble*
 - *unconjugated (indirect) bilirubin: fat -soluble*

Bilirubin metabolism:

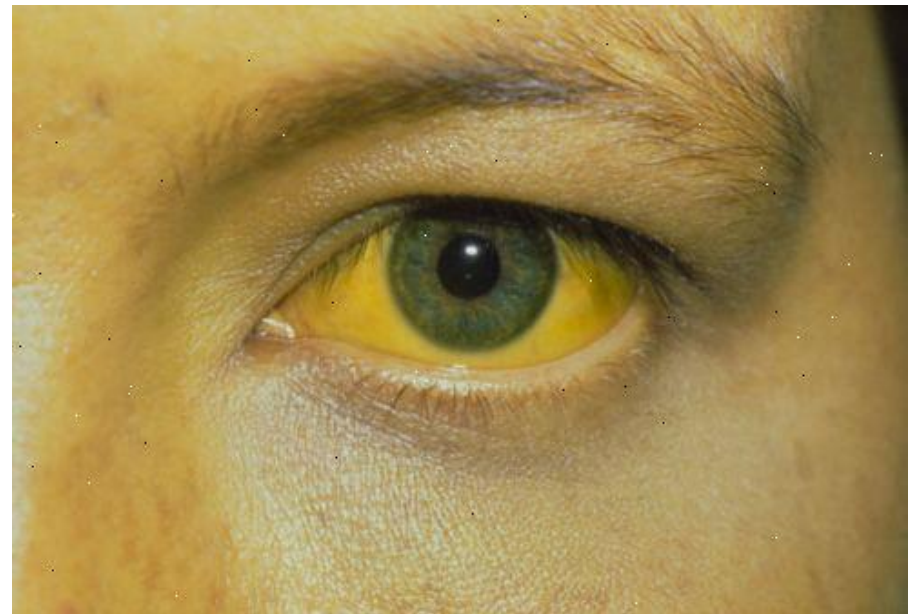




J A U N D I C E

What is jaundice?

- It is a yellowish pigmentation of skin and whites of the eye due to high serum bilirubin levels and may cause itchiness.*



What are types of jaundice?



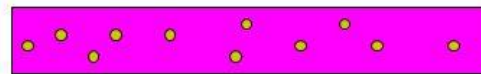
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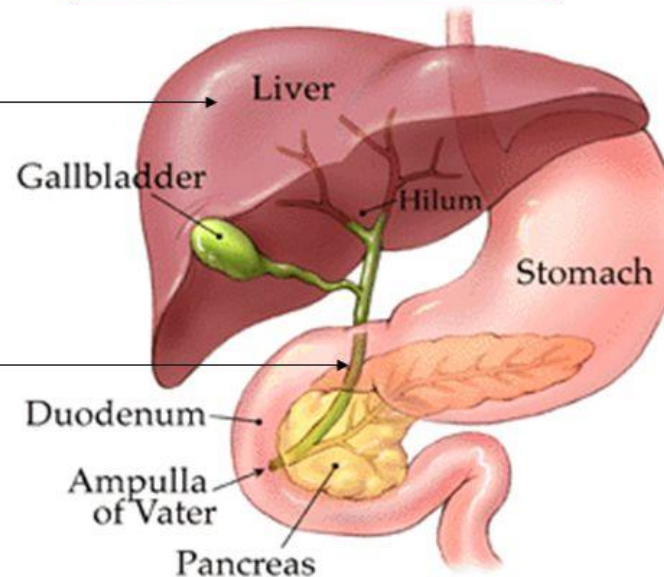
PREHEPATIC



HAEMOLYSIS



HEPATIC

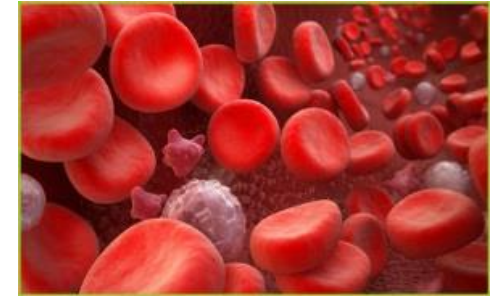
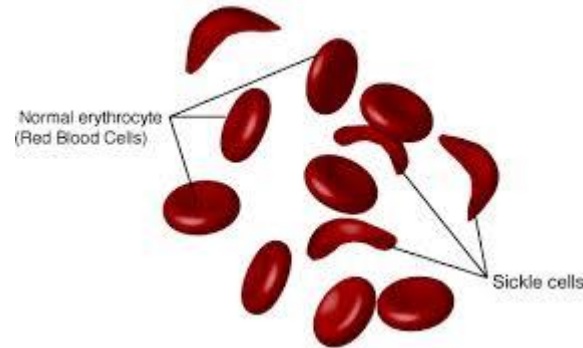
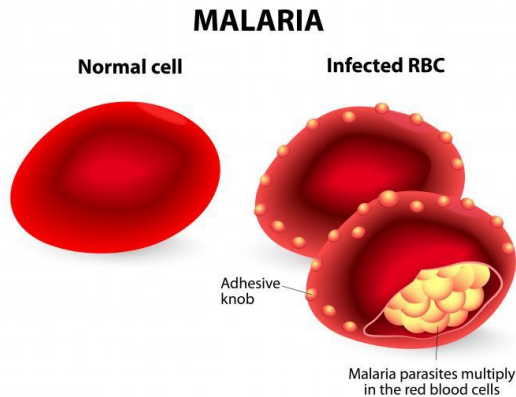


POSTHEPATIC

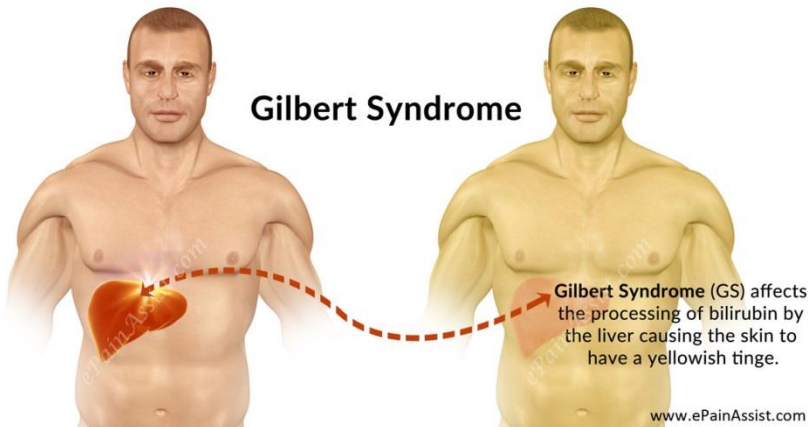
OBSTRUCTIVE
OR SURGICAL

Pre-hepatic jaundice:

- It is caused by anything that causes increased hemolysis rate.*



thalassemia



Crigler-Najjar Syndrom

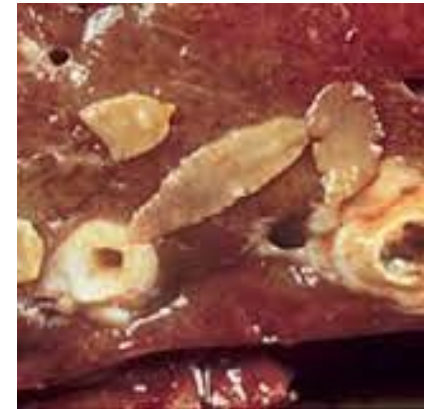
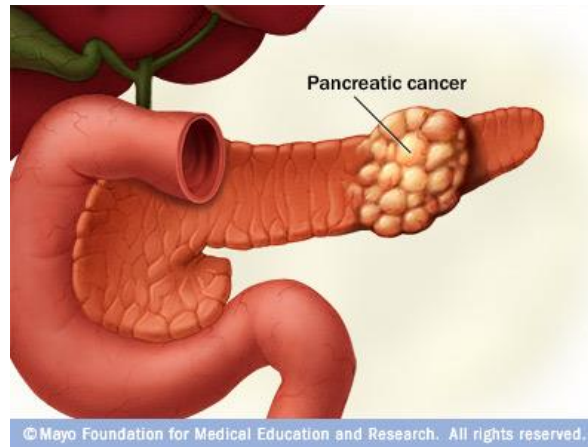
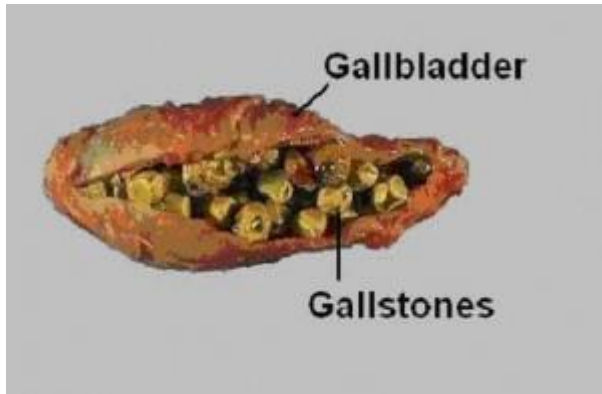
- *There is increased production of urine urobilinogen with no bilirubin in urine.*

Hepatocellular jaundice:

- *It can be caused by :*
 - *Acute hepatitis*
 - *Hepatotoxicity*
 - *Alcoholic liver disease*
- *There will be increased levels of both conjugated and unconjugated bilirubin in blood*
- *In newborn it is called neonatal jaundice*

Post-hepatic (obstructive) jaundice:

- It is caused by interruption to the bile drainage in the biliary system by:*

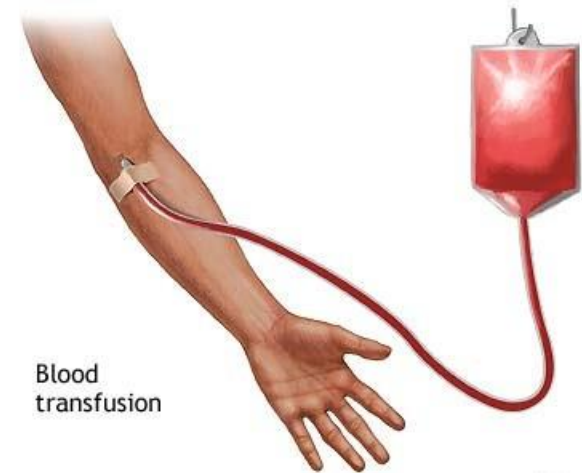


liver flukes

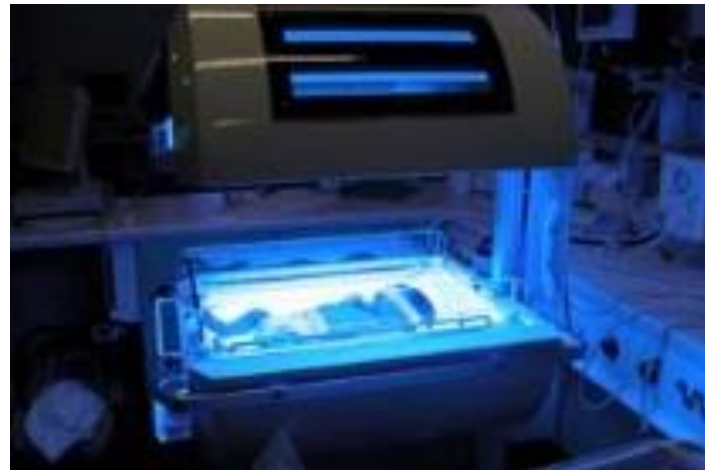
- The patient has pale stool and dark urine*
- Itching may occur due to bile salts deposition*

How can jaundice be treated?

- *It can be treated by:*
 - *Blood transfusion*



- *Phototherapy*



What is the benefit of making bilirubin test?

- *To check for liver function and signs of liver diseases*
- *To check for bile duct obstruction*
- *To diagnose any destruction in RBCs (hemolysis)*
- *To decide whether newborn babies with neonatal jaundice need treatment*



Reference levels of bilirubin:

- *> 5 days-60 years: TB (0.3-1.2) mg/dl
DB (< 0.2) mg/dl*
- *3-5 days: TB (1.5-12) mg/dl*

How can bilirubin be measured in labs?

- *By measuring total bilirubin and direct bilirubin concentration in the blood using supplied kits then indirect bilirubin can be obtained by subtracting direct from total bilirubin concentration.*

What are medicines that increase serum bilirubin?

- *Antibiotics*
- *Birth control pills*
- *Diazepam*
- *Flourazepam*



What are medicines that decrease serum bilirubin?

- *Vitamin C*
- *Phenobarbital*
- *Theophylline*



THANK YOU

