



Jaundice

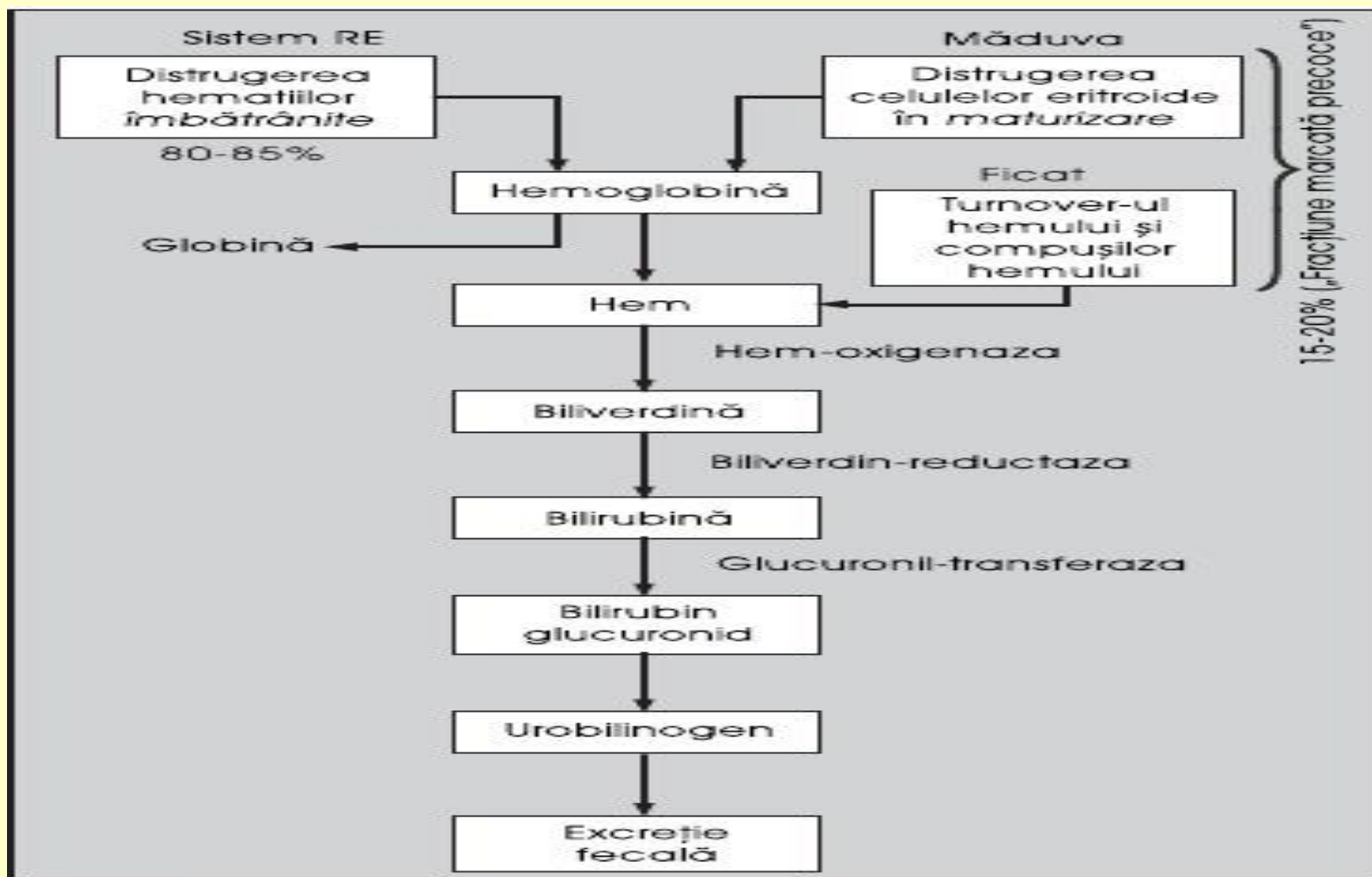
DEFINITION

The notion of Jaundice has 2 meanings:

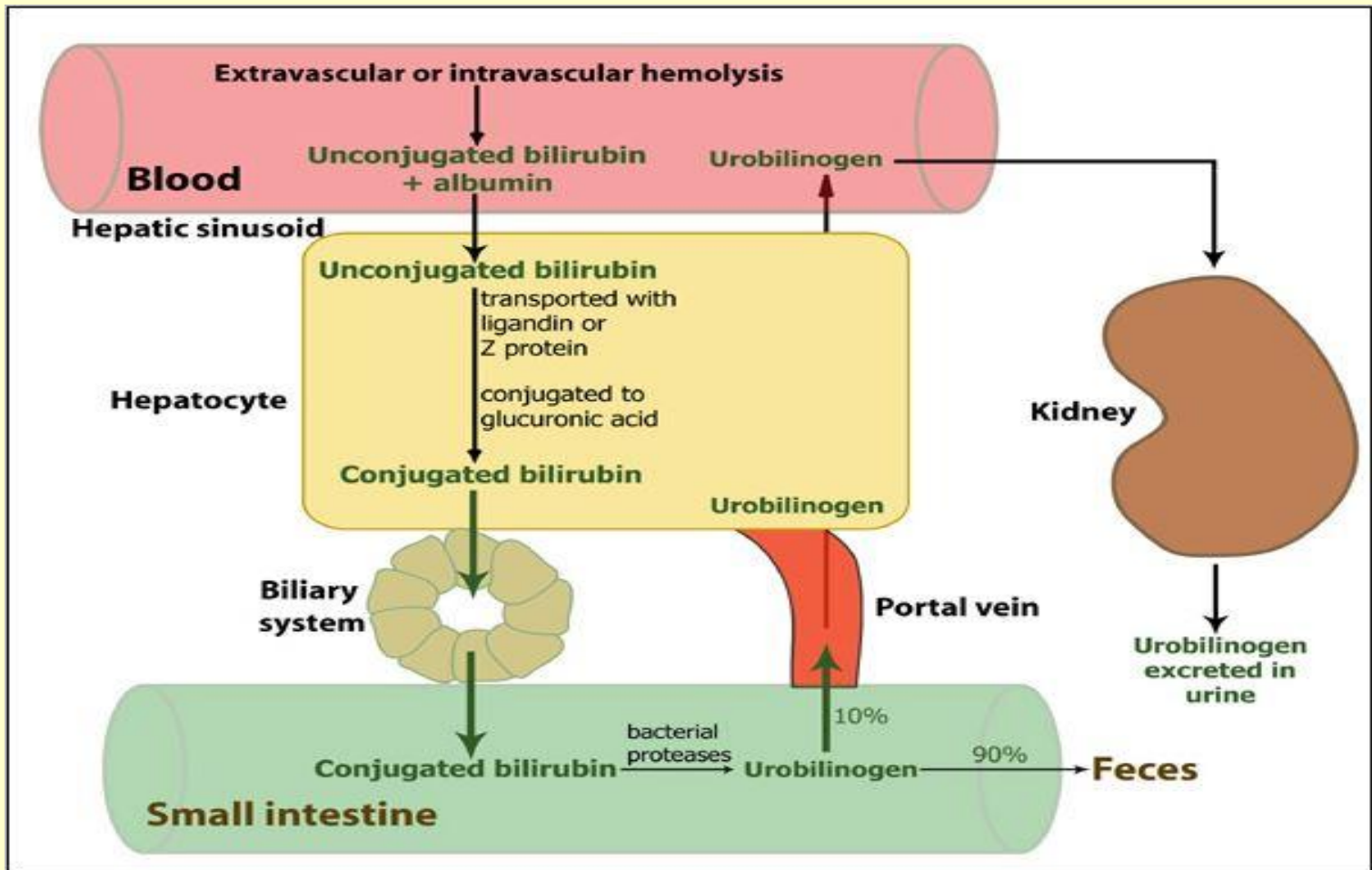
- ❑ **Jaundice–symptom:** is represented by a yellowish discoloration of the tissues
- ❑ **Jaundice – disease:** it includes all of pathophysiology and clinical disorders, which are conditioning the various states of jaundice



BILIRUBIN METABOLISM



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ETIOLOGICAL CLASSIFICATION OF JAUNDICE

INDIRECT HYPERBILIRUBINEMIA

Overproduction	Decrease liver intake	Failure of conjugation
a.) Hemolysis (intra- and extravascular)	a.) fast period	a.) hereditary deficiency of glucuronyltransferase(GT): 📖 GILBERT's syndrome 📖 CRIGLER NAJJAR syndrome tipe I (transferase absence) and II (moderate deficit)
b.) Inefficiency hematopoiesis	b.) sepsis	b.) neonatal jaundice : - Transient deficiency of GNT
		c.) Won deficiency of GNT: 📖 Drug inhibition 📖 Hepatocellular disease (hepatitis, CH)

ETIOLOGICAL CLASSIFICATION OF JAUNDICE

DIRECT HYPERBILIRUBINEMIA

Impaired liver excretion	Biliary extrahepatic obstruction
<p>a.) familial diseases/hereditary:</p> <p>📖 Dubin-Johnson syndrom, Rotor syndrom, Intrahepatic, Benign recurrent cholestasis, Cholestatic of pregnancy</p>	<p>a.) intracanalicular:</p> <p>-Gallstones, biliary tract malformations (atresia, stricture), infections (Ascaris), tumors (cholangiocarcinoma, ampulom), hemobiliae (traumatic biliary, tumors), sclerosis cholangitis</p>
<p>b.) acquired diseases:</p> <p>-Hepatocellular diseases, drugs cholestasis (birth control pills, clorpromazin), alcoholic hepatitis, sepsis, parenteral food, primary biliary cirrhosis</p>	<p>b.) biliary tract compressions:</p> <p>📖 Malignant: pancreatic carcinoma, lymphoma, hilar lymphadenopathy due to metastasis</p> <p>📖 Inflammations: pancreatitis</p>

ANAMNESIS

- **Patient occupation/professional exposure:**

- chemicals: carbon tetrachloride, trichloroethylene;
- biological :contact with waste water, animal manure;
- infective contacts with patients of hepatitis or carriers

Consume of alcohol, drugs (Paracetamol-acetaminophen), mushrooms

- **Recent trips in endemic areas of viral hepatitis**

- **Family history:** hereditary jaundice, anemia, splenectomy, gallstones

- **Personal phatology:** parenteral exposures transfusions, surgery, dental treatments, tattoos, body piercing

PATHOGENICAL CLASSIFICATION OF JAUNDICE

- PRE-HEPATIC= HEMOLYTIC
 - - the pathology is occurring prior the liver due either:
 - a) intrinsic defects in RB cells.
 - b) extrinsic causes external to RB cells
- HEPATIC = HEPATOCELLULAR (PARENCHIMATOS) and HEPATOCANALICULAR (intrahepatic cholestasis)
 - the pathology is located within the liver caused due to disease of parenchymal cells of liver
- POST-HEPATIC = CHOLESTATIC =OBSTRUCTIVE
 - the pathology is located after the conjugation of bilirubin in the liver caused due obstruction of biliary passage

THE HISTORY OF THE DISEASE

○ Type of onset :

Acute / suddenly : hemolytic anemia, biliary colic

Slow / insidious : acute hepatitis, the cancer of the pancreatic head

○ associated symptoms : fever, chills, pruritus, general phenomena :

- **fever**: infectious jaundice(leptospirosis, angiocolitis, sepsis, acute hepatitis), hemolytic anemia

- **pain** : in form of **colic, located in the right upper quadrant** -> gallstones; **epigastric pain**-> onset of acute hepatitis; **intense myalgia** -> leptospirosis

- **pruritus** : acute hepatitis cholestatic, pancreatic head neoplasm; **lacking in hemolytic jaundice**

- **hemorrhagic syndrome** : **severe viral hepatitis; toxic hepatitis** – after eating poisonous mushrooms; **ictero hemorrhagic leptospirosis**(+ myalgia, IRA, serous meningitis); **sepsis** (DIC, Multiple organ failure/MODS)

CLINICAL EXAMINATION

○ **Jaundice shade :**

- **flavin:** in hemolytic jaundice
- **ruby:** in acute viral hepatitis
- **verdin:** in cholestatic jaundice
- **teros(brownish):** liver failure, HC

○ **The evolution of jaundice :**

- **self-limiting, sequential** – with an rising component and one descendant : in acute viral hepatitis
- **widening fast** : in fulminant hepatitis
- **undulating** : the ampulla of vater tumor
- **progressive:** in mechanical jaundice
- **cyclical** : in hemolytic anemia, malaria

CLINICAL EXAMINATION

CLINICAL EXAMINATION OF THE ABDOMEN	<ul style="list-style-type: none">- Areas or painful points- Changes in the volume of the abdomen- The size and characteristics of liver- Courvoisier sign: hydrops of gallbladder (frequently in pancreatic tumor)- Murphy sign: Gallbladder pain on palpation in point (gallstones, the common bile duct)- splenomegaly
Associated cutaneous manifestations:	<ul style="list-style-type: none">- palmar erythrose- Vascular stars and abdominal collateral circulation in CH [cirrhosis]
Evaluation of neurological functions:	<ul style="list-style-type: none">-Sleep-wake rhythm disturbances, sleepiness, dizziness, psychomotor agitation then coma in Acute Liver Failure- flapping tremor (asterixis), ‘medness of the liver disease’ in Hepatic Chirrosis,parenchymal decompensated-Meningeal irritation syndrome in leptospirosis

CLINICAL EXAMINATION



INFECTIOUS JAUNDICE

- **Viruses:**

- hepatitis viruses, VEB, CMV, hemorrhagic fever

- **Spirochete:**

- leptospirosis, secondary syphilis (redish-pink + serologic proof of infection)

- **Bacteria:**

- in sepsis (jaundice + DIC + multiple organ dysfunction); liver abscess (with compress bile duct); Hepatic TB

- **Protozoa:**

- malaria (traveling to endemic areas + fever with different particularities + severe anemia + direct proof of parasite presence)

DIFFERENTIAL DIAGNOSIS

- Jaundice is classified into three categories:
 - **Hemolytic , Hepatocellular ,Cholestatic**
- Hepatocellular damage with **superacute nature** (toxics, fulminant hepatitis), **acute** (viral hepatitis, leptospirosis, Mononucleosis syndrome, sepsis), **chronic** (CH, hepatoma, metastases)
- Requires **urgent therapy** or **surgical therapy**
- Jaundice is an **exclusive manifestation of hepatic disease** or it means that is a **systemic disease with impaired liver**
- If there are complications present (**CID, IRA**)
- If there are associated factors (**toxic, parasitic**)