



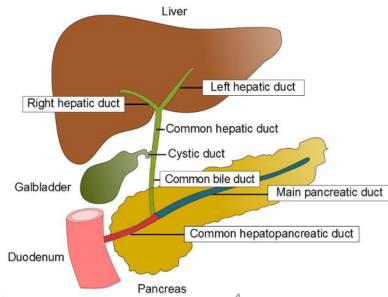
Round : ..General surgery

Group no : B3.....

Done By : ..Fatima abu assal

Obstructive jaundice:

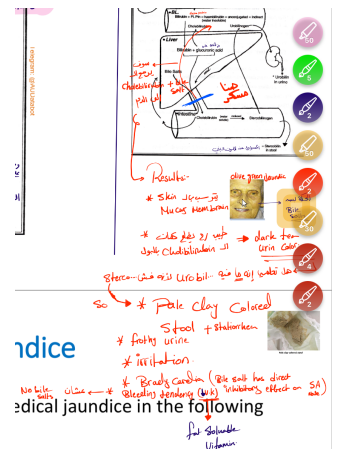
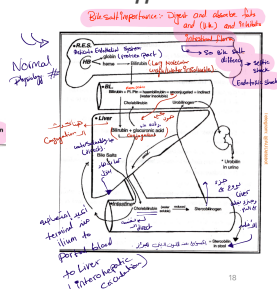
- ✦ Normal caliber of CBD = < 8mm (0.8cm)
- ✦ Normal caliber of pancreatic duct = < 4mm
- ✦ Gallbladder wall thickness < 4mm
- ✦ Total Bilirubin range = 0.1-1.2
- ✦ Direct bilirubin = 0-0.3
- ✦ Jaundice becomes clinically detectable when serum bilirubin levels exceed 2-3 mg/dL



- ✦ Medical jaundice (pre hepatic and intra hepatic)
 - ✦ Pre = hemolytic anemia → excess bilirubin → unconjugated hyperbilirubinemia
 - ✦ Intra = due to parenchymal liver disease (viral hepatitis => high levels of unconjugated bilirubinemia) (cholestasis / cholangitis more associated with conjugated hyperbilirubinemia) (direct/total < 20%)
- ✦ Surgical jaundice (post hepatic) associated with conjugated hyperbilirubinemia (transaminase (AST, ALT) عالى شوي لكن ALP عالى كثير)
 - ✦ Normal range of AST = 10-40 // ALT = 7-56 // ALP = 40-130

* Causes:-

- * GIB stones: Migrating to CBD (MC)
- * stricture of CBD (MC cause is iatrogenic)
 - * حصى حصى حصى
 - * حصى حصى حصى
- * Malignant Obstructive Jaundice (MC is head of Pancreas)
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Telegram: @AUData

- Effect on the gall bladder : Courvoisier's Law
 - ✦ But in Malignant gallbladder jaundice it will become larger.

- ✦ The main cause of death in obstructive jaundice is hepatorenal failure

	*Calcular O.J	*Malignant O.J
1. Age	• Usually around 40 years	• Usually above 50 years
2. Sex	• More in females	• More in males
3. Onset	• Sudden	• Gradual
4. Course	• Intermittent leading to moderate jaundice	• Progressive leading to deep jaundice except in periampullary carcinoma one or 2 remissions rarely occur .
5. Pain	• Dull aching or colic , intermittent , in right hypochondrium , epigastrium & back below right scapula.	• Early painless then pain in advanced cases become constant , , progressive , sever in the epigastrium referred to the back .
6. Fever	• May be present	• Usually absent
7. Loss of weight	• Absent	• Marked
8. Liver	• Mild enlargement	• Marked enlargement
9. G.B.	• Usually not felt	• Usually felt
10. Mass	• Absent	• Epigastric mass may be felt due metastases in left lobe of liver , the lymph nodes or rarely pancreatic mass in very late cases .
11. Ascitis	• Absent	• Occurs in late cases.
12. Investigations	• Evidences of stones	• Evidences of tumour

6.7 Urine and stool analysis in jaundice

	Urine			Stools
	Colour	Bilirubin	Urobilinogen	Colour
Unconjugated	Normal	—	++++	Normal
Hepatocellular	Dark	++	++	Normal
Obstructive	Dark	++++	—	Pale

✨ Laboratory tests:

Conjugated hyperbilirubinemia with the direct bilirubin more than 50% of total bilirubin

✨ Imaging studies:

U/S in calcular obstructive jaundice then MRCP

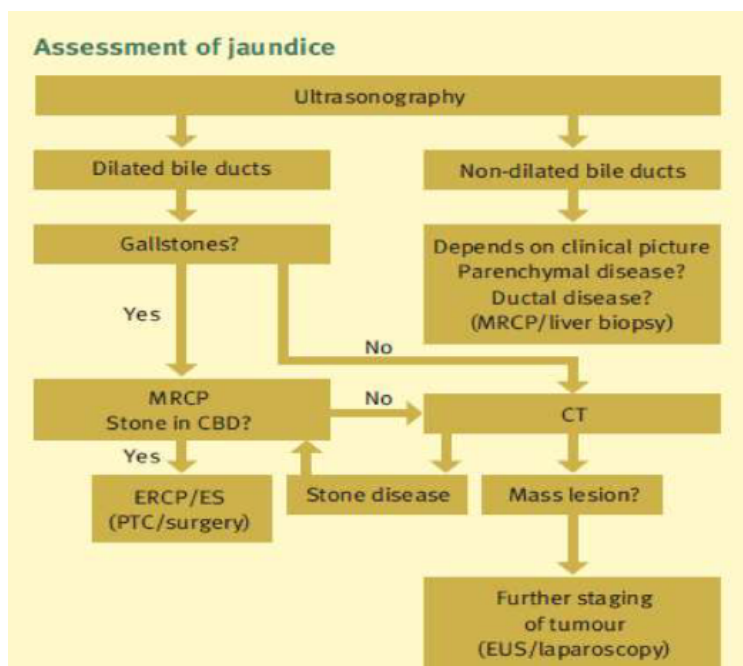
CT scan if is suspect cancer in head of pancreas

Note: MRCP diagnostic and none invasive (in pancreatic cancer it shows double duct dilation)

PTC diagnostic and therapeutic +invasive

ERCP diagnostic and therapeutic +invasive (contraindicated to use it as diagnosis in cholangitis and pancreatitis) but it has complications like damage to superior pancreaticoduodenal artery , perforation, acute pancreatitis (اكثر اشي) so it considered as definitive treatment

✨ Note: don't take biopsy from liver if there is obstruction in bile duct so we take it during placement of biliary stent



Condition		Comments
Prehepatic (hemolytic)	Hemolytic anemia	Pallor, fatigue, shortness of breath
	Gilbert's syndrome	Benign condition triggered by overexertion, dehydration, menstruation, concurrent illness, surgery; decreased activity of the enzyme UDP-glucuronyl transferase
Hepatic (hepatocellular)	Ischemic liver injury	May result from transient hypotension and hypoxia or trauma or in transplanted donor liver; marked rise in ALT and AST
	Viral	Viral infection of hepatocytes; anorexia, nausea, vomiting; aminotransferases >25x upper limit of normal; may progress to acute liver failure, become a chronic infection, or completely resolve
	Toxic ingestion	Acetaminophen, alcohol (AST:ALT ratio > 2), iron overload; can cause acute liver failure
	Nonalcoholic fatty liver disease	Often asymptomatic; hepatic steatosis, metabolic syndrome, AST:ALT ratio < 1
	Primary biliary cirrhosis	Autoimmune process, skin xanthomas, associated with rheumatoid arthritis or Sjogren's syndrome; antimitochondrial antibody
	Primary sclerosing cholangitis	Associated with ulcerative colitis, fatigue, pruritus, p-ANCA
	Hepatolenticular degeneration (Wilson's disease)	Autosomal recessive, retention of copper, Kayser-Fleischer ring (brown ring on the edge of the iris), cirrhosis, and neurologic manifestations including parkinsonism
	Cirrhosis	Hyperestrinism (gynecomastia, testicular atrophy, decreased body hair, spider angiomas, palmar erythema), portal hypertension (esophageal varices, splenomegaly, ascites, caput medusae, anorectal varices), hepatic synthetic dysfunction (ecchymoses, edema, hydrothorax)
Posthepatic	Cholelithiasis	Gallstone (from the gallbladder) enters the common bile duct (CBD) causing obstruction, RUQ pain, nausea
	Acute cholangitis	Ascending infection of the CBD often caused by gallstone obstruction; fever, jaundice, RUQ pain, ± hypotension, ± altered mental status
	Chronic pancreatitis	May cause biliary stricture, recurrent epigastric pain, malabsorption
	Mirizzi syndrome	RUQ pain due to external compression of the common hepatic duct by large gallstone in gallbladder or cystic duct
	Pancreatic carcinoma	Painless jaundice is more common in carcinomas arising from the head of the pancreas; new-onset diabetes may precede diagnosis of cancer; poor prognosis
	Ampullary carcinoma	Malignancy arising from the ampulla of Vater; most common presentation is painless obstructive jaundice
	Cholangiocarcinoma	Associated with sclerosing cholangitis, chronic parasitic infections, malignancy of the bile ducts usually present at advanced stage, highly lethal