**ALL ABOUT HEPATOMEGALY**  
*(Author: Dr. S. UMA DEVI)*

**Hepatomegaly** is enlargement of liver. A diseased liver may be normal sized or shrunken also.

A **palpable liver** may not be due to hepatomegaly. Non enlarged palpable liver occurs in –
- Emphysema,
- Sub phrenic abscess
- Viscerophtosis
- Normal in children
- Aberrant lobe of liver - Riedel's lobe

**Causes**
I. Generalized Enlargement
II. Localised enlargement
Diffuse Hepatomegaly

With jaundice
1. Hepatocellular,
2. Hemolytic,
3. Obstructive-Ca. pancreas, biliary stone
Jaundice rare in hepatocellular carcinoma, common only in cholangio carcinoma

Without jaundice
1. Vascular congestion
CCF, PHT, Hepatic vein thrombosis, portal vein thrombosis, IVC obstruction
2. Inflammatory hepatitis
a. Drug induced, alcoholic
b. Infection- Diffuse-typhoid, malaria, kaza localised - amoebic cyst

Without jaundice (cont)
3. Infiltrative
Fat-Fatty liver-alcoholic, DM, Toxins
Lipodosis-Gauchers, Neimann-Pics,
Glycogen-Glyc. Storage dis
proteins-Amyloid
Iron+lymphoma, leukemia-hemachromatosis, Granuloma-TB
Lymphoma, leukemia-extra medullary hematopoiesis

hepatomegaly localised enlargement

Amoebic abscess,
Hydatid cyst,
polycystic liver,
Actinomycosis,
Primary/2ndry malignancy liver
Hepatic adenoma, Riedels lobe liver
Common causes of hepatomegaly
1. CCF
2. Secondary deposits in liver
3. Infective causes
4. Alcoholic fatty liver
5. Lymphoma, leukemia

Summary information elicitable from history:
- Are there risk factors for liver disease?
- Symptoms associated with liver disease

Note: liver does not contain nerves.
If massive, causes abdominal discomfort and feeling of fullness
Pain of enlarged liver is due to stretching of the capsule

History
Present history:
Fever
Viral hepatitis, typhoid, malaria, kala azar, TB
Dysentery,
Gall stones
CCF
Alcoholism
DM
Malignancy
Abdominal symptoms-
Loss of appetite, nausea, vomiting, hematemesis, melena, jaundice, pruritis

Past history:
Jaundice, tattooing, transfusion, diet, drugs, alcoholism, hematemesis, melena

Contact history:
TB, dog (hydatid)

Occupational
Personal History: Alcoholism

Family history:
Wilson's disease, hemochromatosis, α1 antitrypsin deficiency

Jaundice + fever:
Infective hepatitis
Leptospirosis
Cholecystitis
Physical examination

**Inspection:**
- Localised swelling-Abscess,tumor
- Pulsatile Liver – in
  - Tricuspid incompetence(systolic)
  - Tricuspid stenosis(diastolic)

**Palpation**
- Tenderness-Infective,congestive/malignant liver,hepatic amoebiasis,hepatic abscess
- Consistency
  - Soft-CCF,acute viral hepatitis,acute malaria,typhoid,fatty liver
  - Firm liver-Cirrhosis,chronic malaria,K.azar.lymphoma
  - Rock hard- malignant
  - Nodular-finely granular-cirrhosis;coarsely nodular-malignancy,
  - Hydatid cyst
- Edge- Rounded in hepatitis,CCF,
Sharp- malignancy
- Palpable gall bladder-pancreatic Cancer

**Percussion**
- Upward enlargement-Amoebic abscess
- Down ward enlargement- other hepatomegalies

**Liver span**
It is vertical distance between uppermost and lower most points of liver dullness-in Rt mid clavicular line-Normal-12-15 cm

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**Diminished liver dullness**
Terminal stage of portal cirrhosis
Acute fulminant hepatitis

**Percussion of upper border**
In Rt.pneumothorax and emphysema upper border cannot be percussed.

**Apparent diminution of liver dullness:**
In perforation and in excessive gaseous distension

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**Auscultation**
Bruit over the liver- malignancy, hemangioma of liver
Venous hum-between xiphoid and umbilicus- in portal hypertension with collaterals
Hepatic rub- In tumor, After biopsy, perihepatitis

**Other associated physical exam findings to look for:**
Jaundice, vascular spiders, palmar erythema, gynecomatia, testicular atrophy, Ascites, splenomegaly, peripheral edema
Their presence supports further diagnostic testing

**Other masses which can simulate liver enlargement**
Ca.Stomach, malignancy of right kidney, Ca.gall bladder, Ca.colon, omental mass
Degree of enlargement of liver
Mild: 1-2 fingers breadth below the costal margin
Moderate: 2-5 fingers breadth below the costal margin
Massive: more than 5 fingers breadth below the costal margin.

Causes of massive hepatomegaly:
Malignancy;primary/secondary
Congestive cardiac failure
Fatty infiltration
Amyloid
Hodgkins
Poly cystic liver

Rapid decrease in liver Size
Improvement in CCF
Mobilisation of fat from liver
Massive hepatic necrosis

Atrophy of liver
Occurs in
Severe acute liver damage
Cause-fulminant viral hepatitis
Hepatic toxins
Cirrhosis
(Atrophy of liver is detected by percussion of lower border.
Area of percussion extends above costal margin)

Rapid enlargement of liver
Malignancy of liver
Amoebic abscess

Enlargement of left lobe of liver
Amoebic abscess
Hepatoma
Secondaries
Gumma of the liver

Causes of Hepatomegaly with splenomegaly
Same causes of splenomegaly

Hepatomegaly with generalized lymph adenopathy
Miliary tuberculosis
Leukemia
Lymphoma
Infectious mononucleosis
Hepatomegaly with pigmentation
Haemochromotosis (bronze liver)

Hepatomegaly with jaundice:
Acute viral hepatitis
Hemolytic jaundice
Carcinoma of liver
Cirrhosis of liver
Cholangio hepatitis
Leptospirosis
Lymphoma with lymphnodes at porta hepatis
Jaundice is rare in hepatoma

Drugs and liver
Cholestatic:
Erythromycin, oral contraceptives, anabolic steroids, anti thyroid, largactil, chemotherapeutics.
Hepato cellular damage:
Methyl dopa, eptoin, INH, Rifa, Halothane
Fatty liver:
Tetracycline, valproic acid
Granuloma
Phenyl butazone, Sulpha, allopurinol

Toxic agents
Metal - yellow phosphorous
Mush room
Hydrocarbon - carbon tetrachloride
Arsenic

INVESTIGATIONS

Initial lab tests:
Complete blood count
Urea, creatinine, electrolytes, glucose
Liver function tests and liver enzyme tests
If liver enzymes elevated, hepatitis serology panel included

Diagnostic testing :
1. Ultrasound abdomen especially Rt. upper quadrant
2. xray chest
3. Kidney, urinary tract bladder functions
4. CT SCAN: If USG non diagnostic, or if malignancy suspected

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Liver biopsy: indications
Unexplained hepatomegaly or jaundice,
Persistent abnormal liver function tests,
Chronic viral hepatitis
Suspected
cirrhosis or portal hypertension,
primary/secondary malignancies
hemochromatosism,
Wilson's disease
Hepatic dysfunction following liver transplant