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DEPARTMENT: ANATOMY

COURSE: THORAX AND ABDOMEN

COURSE CODE: ANA 202

Q:

- 1) Why do we have more venous blood than oxygenated in the liver 70:30%?
 - 2) Discuss Five (5) disease conditions of the liver.
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A:

1) The reason for the higher supply of blood from the portal vein than the hepatic artery is because,

Structure of Vessel

i) the vein has a larger lumen

ii) thinner wall than the artery as a result of less smooth muscle and connective tissues which is related to the fact that veins have less pressure than arteries

Content

iii) it aids in supplying the liver with nutrients such as vitamins, proteins and carbohydrates from the spleen, gastrointestinal tract (ie stomach, small intestine) for processing. Also, although it may consist mostly of deoxygenated blood it accounts for 50% of the liver oxygen demand. The large volume allows for filtration of toxins that may have been absorbed along with the food.

2)

I) Hepatitis

This is a viral infection of the liver which causes inflammation and liver damage, making it difficult for your liver to function as it should. It is highly contagious. There are five types of hepatitis. Symptoms may include inflammation of liver, nausea, itchy skin, fatigue

- Hepatitis A: It is typically spread with contaminated food or water. Recovery can take a few weeks
- Hepatitis B: It is spread through bodily fluids, such as blood or semen. There is no cure for it and maybe chronic or short term.
- Hepatitis C: It is a single stranded RNA Virus and is spread through blood contact. There are no symptoms in its early stages but can cause liver damage in its later stages
- Hepatitis D: It only develops in people with Hepatitis B. It may be acute or chronic.
- Hepatitis E: It is caused by drinking contaminated water. It clears up on its own in a few weeks without any lasting complications

II) Fatty Liver disease

This caused by fat build up in the liver. There are two types:

- Alcoholic fatty liver disease which is caused by heavy alcohol consumption
- Non Alcoholic fatty liver disease

If left unmanaged it will lead to cirrhosis and liver failure. Metabolic risk factors like obesity, insulin resistant diabetes, hypertension are linked to Non Alcoholic fatty liver disease

III) Autoimmune conditions

This involves your immune system mistakenly attacking your healthy liver cells i.e. Hepatocytes. Some examples include:

- Primary biliary cirrhosis: this results from damage to the bile ducts causing a build-up of bile which leads to cirrhosis and liver failure
- Primary sclerosing cholangitis. This is an inflammatory condition that causes gradual damage to the bile duct which eventually become blocked, leading to cirrhosis

IV) Cirrhosis

this refers to scarring that results from liver diseases and other causes of liver damage such as alcohol use disorder, cystic fibrosis and syphilis. The more scar tissue the harder it is for the liver to function properly. If left unmanaged can lead to complications.

Symptoms may include jaundice, abdominal distension, malaena

V) Genetic Conditions

Hemochromatosis: this causes the body to store more iron than required which will lead to damage over a long period of time. It may also lead to cirrhosis.

Wilson's disease It causes the liver to absorb copper instead of releasing it into the bile duct. Eventually the liver becomes too damaged to store more copper and allowing it to travel into the blood stream thereby destroying other organs. Symptoms include dark rings encircling the iris of the eye