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MATRIC NO.: 18/MHS01/160

COURSE: ANA 202

DEPARTMENT: ANATOMY

ASSIGNMENT:

1. Why do we have the portal vein or the liver receiving more blood from the vein than it receives from the artery.
2. Discuss five(5) disease conditions of the liver

1.

The liver is supplied by two main blood vessels on its right lobe: the hepatic artery and the portal vein. The portal vein brings venous blood from the spleen, pancreas, and small intestine so that the liver can process the nutrients and byproducts of food digestion. The hepatic artery carries blood from the aorta to the liver, whereas the portal vein carries blood containing the digested nutrients from the entire gastrointestinal tract, and also from the spleen and pancreas to the liver. The portal vein is not a true [vein](https://en.wikipedia.org/wiki/Vein), because it conducts blood to [capillary](https://en.wikipedia.org/wiki/Capillary) beds in the liver and not directly to the heart. It is a major component of the [hepatic portal system](https://en.wikipedia.org/wiki/Hepatic_portal_system), one of only two [portal venous systems](https://en.wikipedia.org/wiki/Portal_venous_system) in the body with the [hypophyseal portal system](https://en.wikipedia.org/wiki/Hypophyseal_portal_system) being the other.

The portal vein is usually formed by the confluence of the [superior mesenteric](https://en.wikipedia.org/wiki/Superior_mesenteric_vein) and [splenic veins](https://en.wikipedia.org/wiki/Splenic_vein) and also receives blood from the [inferior mesenteric](https://en.wikipedia.org/wiki/Inferior_mesenteric_vein), [left](https://en.wikipedia.org/wiki/Left_gastric_vein) and [right gastric veins](https://en.wikipedia.org/wiki/Right_gastric_vein), and [cystic veins](https://en.wikipedia.org/wiki/Cystic_vein).

The hepatic artery supplies the liver with oxygenated blood from the general circulation while the hepatic portal vein supplies the liver with deoxygenated blood from the small intestine containing nutrients which flows through the liver tissues to the hepatic cells where many metabolic functions takes place. Generally, veins are larger than arteries so they carry more volume of blood which equals to more nutrients. The liver having so much work to do like detoxification etc. need nutrients which the veins carry as much as possible. Also, the portal vein supplies the liver with metabolic substrates and it ensures that substances ingested are first processed by the liver before reaching the systemic circulation.

2.

DISEASE CONDITIONS OF THE LIVER

1. **FATTY LIVER DISEASE;** Fat buildup in the liver can lead to [fatty liver disease](https://www.healthline.com/health/fatty-liver). There are two types of fatty liver disease:
* alcoholic fatty liver disease, which is caused by heavy alcohol consumption
* [Nonalcoholic fatty liver disease](https://www.healthline.com/health/nonalcoholic-fatty-liver-disease), which is caused by other factors.

Left unmanaged, both types of fatty liver disease can cause liver damage, leading to cirrhosis and liver failure. [Diet](https://www.healthline.com/health/fatty-liver-diet) and other lifestyle changes can often improve symptoms and reduce your risk of complications.

1. **AUTOIMMUNE CONDITION**; involve your immune system mistakenly attacking healthy cells in your body. Several autoimmune conditions involve your immune system attacking cells and your liver, including:
* **Autoimmune hepatitis.** This [condition](https://www.healthline.com/health/autoimmune-hepatitis) causes your immune system to attack your liver, resulting in inflammation. Left untreated, it can lead to cirrhosis and liver failure.
* **Primary biliary cirrhosis (PBC).** This results from damage to the bile ducts in your liver, causing a buildup of bile. [PBC](https://www.healthline.com/health/primary-biliary-cirrhosis) can lead to eventual cirrhosis and liver failure.
* **Primary sclerosing cholangitis.** This [inflammatory condition](https://www.healthline.com/health/cholangitis) causes gradual damage to your bile ducts. They eventually become blocked, causing bile to build up in your liver. This can lead to cirrhosis or liver failure.
1. **GENETIC CONDITIONS**; Several genetic conditions which can be gotten from parents causes liver disease;
* [Hemochromatosis](https://www.healthline.com/health/hemochromatosis) causes the body to store more iron than it needs. This iron remains in the organs, including your liver. This can lead to damage over a long period of time if not managed.
* [Wilson’s disease](https://www.healthline.com/health/wilsons-disease) causes the liver to absorb copper instead of releasing it into the bile ducts. Eventually, the liver may become too damaged to store more copper, allowing it to travel through the bloodstream and damage other parts of the body, including the brain.
* Alpha-1 antitrypsin (AT) deficiency occurs when the liver can’t make enough alpha-1 antitrypsin, a protein that helps prevent enzyme breakdowns throughout the body. This condition can cause lung disease as well as liver disease. There’s no cure, but treatment can help.
1. **CANCERS**; Liver cancers first develop in the liver. If cancer starts elsewhere in the body but spreads to the liver, it’s called secondary liver cancer.

The most common type of liver cancer is [hepatocellular carcinoma](https://www.healthline.com/health/treating-hcc/treatment-options). It tends to develop as several small sports of cancer in your liver, though it can also start as a single tumor.

Complications of other liver diseases, especially those that aren’t treated, may contribute to the development of liver cancer

1. **INFECTIONS;** Sometimes, the problem is there is an infection that inflames the liver. Viral hepatitis is the most common cause, including:

 **HEPATITIS; Hepatitis is an inflammation of the liver that can be caused by a virus, by inherited disorders, and sometimes by certain medications or toxins such as alcohol and drugs.**

* [Hepatitis A](https://www.webmd.com/hepatitis/digestive-diseases-hepatitis-a); It is waterborne and is spread mainly via sewage and contaminated food and water. It might not show any symptoms. It usually goes away by itself within 6 months without any long-term harm.
* [Hepatitis B](https://www.webmd.com/hepatitis/digestive-diseases-hepatitis-b)**;** is transmitted by contact with infected semen, blood, or vaginal secretions, and from mother to newborn. Hepatitis B is most commonly spread by unprotected sex and by sharing of infected needles (including those used for tattooing, acupuncture, and ear piercing).
* [Hepatitis C](https://www.webmd.com/hepatitis/digestive-diseases-hepatitis-c) ; It is spread by direct blood-to-blood contact.
* Hepatitis D; is spread by infected needles and blood transfusions.
1. **CIRRHOSIS**; this occurs over time. As the liver is damaged, it will repair itself, but scar tissue forms in the process. Over time this makes it difficult for the liver to function. It's the final stage of many different forms of liver disease.