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COURSE TITLE-GROSS ANATOMY OF THORAX, ABDOMEN, PELVIC & PERINEUM

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QUESTION

1. DISCUSS FIVE (5) DISEASES CONDITIONS OF THE LIVER

(1)Hepatitis A

(2)Hepatitis B

(3)Hepatitis C

(4) Non-Alcoholic Fatty Liver Disease (NAFLD)

(5) Cirrhosis

HEPATITIS A

Hepatitis A is a viral liver disease that can cause mild to severe illness.

The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person.

Almost everyone recovers fully from hepatitis A with a lifelong immunity. However, a very small proportion of people infected with hepatitis A could die from fulminant hepatitis. WHO estimates that hepatitis A caused approximately 7 134 deaths in 2016 (accounting for 0.5% of the mortality due to viral hepatitis). The risk of hepatitis A infection is associated with a lack of safe water, and poor sanitation and hygiene (such as dirty hands). In countries where the risk of infection from food or water is low, there are outbreaks among men who have sex with men (MSM) and persons who inject drugs (PWIDs).

Epidemics can be prolonged and cause substantial economic loss. A safe and effective vaccine is available to prevent hepatitis A.

Safe water supply, food safety, improved sanitation, hand washing and the hepatitis A vaccine are the most effective ways to combat the disease. Persons at high risk, such as travelers to countries with high levels of infection, MSM and PWIDs can get vaccinated.

Hepatitis A is a liver disease caused by the hepatitis A virus (HAV). The virus is primarily spread when an uninfected (and unvaccinated) person ingests food or water that is contaminated with the faeces of an infected person. The disease is closely associated with unsafe water or food,

inadequate sanitation, poor personal hygiene and oral-anal sex. Unlike hepatitis B and C, hepatitis A does not cause chronic liver disease and is rarely fatal, but it can cause debilitating symptoms and fulminant hepatitis (acute liver failure), which is often fatal. Overall, WHO estimated that in 2016, 7 134 persons died from hepatitis A worldwide (accounting for 0.5% of the mortality due to viral hepatitis).

Hepatitis A occurs sporadically and in epidemics worldwide, with a tendency for cyclic recurrences. The hepatitis A virus is one of the most frequent causes of foodborne infection. Epidemics related to contaminated food or water can erupt explosively, such as the epidemic in Shanghai in 1988 that affected about 300 000 people1. They can be also prolonged, affecting communities for months through person-to-person transmission. Hepatitis A viruses persist in the environment and can withstand food-production processes routinely used to inactivate and/or control bacterial pathogens.

The disease can lead to significant economic and social consequences in communities. It can take weeks or months for people recovering from the illness to return to work, school, or daily life. The impact on food establishments identified with the virus, and local productivity in general, can be substantial.

HEPATITIS B

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease.

The virus is most commonly transmitted from mother to child during birth and delivery, as well as through contact with blood or other body fluids.

WHO estimates that in 2015, 257 million people were living with chronic hepatitis B infection (defined as hepatitis B surface antigen positive).

In 2015, hepatitis B resulted in an estimated 887 000 deaths, mostly from cirrhosis and hepatocellular carcinoma (i.e. primary liver cancer).

As of 2016, 27 million people (10.5% of all people estimated to be living with hepatitis B) were aware of their infection, while 4.5 million (16.7%) of the people diagnosed were on treatment.

Hepatitis B can be prevented by vaccines that are safe, available and effective.

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (HBV). It is a major global health problem. It can cause chronic infection and puts people at high risk of death from cirrhosis and liver cancer.

A safe and effective vaccine that offers a 98-100% protection against hepatitis B is available. Preventing hepatitis B infection averts the development of complications including the development of chronic disease and liver cancer.

HEPATITIS C

(3) What Is Hepatitis C?

Hepatitis C is a liver infection that can lead to serious liver damage. It's caused by the hepatitis C virus. About 3.9 million people in the U.S. have the disease. But it causes few symptoms, so most of them don't know. The virus spreads through an infected person's blood or body fluids.

There are many forms of the hepatitis C virus, or HCV. The most common in the U.S. is type 1. None is more serious than any other, but they respond differently to treatment.

Stages of Hepatitis C

The hepatitis C virus affects people in different ways and has several stages:

- Incubation period- This is the time between first exposures to the start of the disease. It can last anywhere from 14 to 80 days, but the average is 45
- Acute hepatitis C- This is a short-term illness that lasts for the first 6 months after the virus enters your body. After that, some people who have it will get rid of, or clear, the virus on their own.
- Chronic hepatitis C- If your body doesn't clear the virus on its own after 6 months, it becomes a long-term infection. This can lead to serious health problems like liver cancer or cirrhosis.
- Cirrhosis- This disease leads to inflammation that, over time, replaces your healthy liver cells with scar tissue. It usually takes about 20 to 30 years for this to happen, though it can be faster if you drink alcohol or have HIV.
- Liver cancer- Cirrhosis makes liver cancer more likely. Your doctor will make sure you get regular screenings because there are usually no symptoms in the early stages.

What Are the Symptoms of Hepatitis C?

Many people with hepatitis C have no symptoms. But between 2 weeks and 6 months after the virus enters your bloodstream, you could notice:

Clay-colored poop

Dark urine

Fever

Fatigue

Jaundice (a condition that causes yellow eyes and skin, as well as dark urine)

Joint pain

Loss of appetite

Nausea

Stomach pain

Vomiting

Symptoms usually last for 2 to 12 weeks.

How Do You Get Hepatitis C?

Hepatitis C spreads when blood contaminated with the hepatitis C virus gets into your bloodstream through contact with the blood or body fluids of an infected person.

You can be exposed to the virus from:

Sharing injection drugs and needles

Having sex, especially if you have an STD, an HIV infection, several partners, or have rough sex

Being stuck by infected needles

Birth -- a mother can pass it to a child

Sharing personal care items like toothbrushes, razor blades, and nail clippers

Getting a tattoo or piercing with unclean equipment

You can’t catch hepatitis C through:

Breastfeeding (unless nipples are cracked and bleeding)

Casual contact

Coughing

Hugging

Holding hands

Kissing

Mosquito bites

Sharing eating utensils

Sharing food or drink

Sneezing

Symptoms of Advanced Hepatitis C

You could notice acute symptoms along with:

Fluid buildup in the abdominal cavity (ascites) or the legs (edema)

Gallstones

Your brain doesn't work as well (encephalopathy)

Kidney failure

Easy bleeding and bruising

Intense itching

Muscle loss

Problems with memory and concentration

Spider-like veins on the skin

Vomiting blood due to bleeding in the lower esophagus (esophageal varices)

Weight loss

Liver function tests: They measure proteins and enzyme levels, which usually rise 7 to 8 weeks after you're infected. As your liver gets damaged, enzymes leak into your bloodstream. But you can have normal enzyme levels and still have hepatitis C. Learn the reasons why you should get tested for hepatitis C.

Treatment and Medication for Hepatitis C

If you have acute hepatitis C, there is no recommended treatment. If your hepatitis C turns into a chronic hepatitis C infection, there are several medications available:

Interferon, peginterferon, and ribavirin used to be the main treatments for hepatitis C. They can have side effects like fatigue, flu-like symptoms, anemia, skin rash, mild anxiety, depression, nausea, and diarrhea.

But hepatitis C treatments have changed a lot in recent years. Now you're more likely to get one of these medications: Daclatasvir (Daklinza). You'll take this pill once a day along with sofosbuvir for 12 weeks.

Sofosbuvir-velpatasvir (Epclusa). This daily pill, which you take for 12 weeks, should cure your disease.

Ledipasvir-sofosbuvir (Harvoni). This once-daily pill cures the disease in most people in 8-12 weeks.

Glecaprevir and pibrentasvir (Mavyret). This daily pill offers a shorter treatment cycle of 8 weeks for adult patients with all types of HCV who don't have cirrhosis and who haven't already been treated. The treatment is longer for those who are in a different disease stage. The prescribed dosage for this medicine is 3 tablets daily.

Ribavirin (Copegus, Moderiba, Rebetol, Ribasphere, Virazole). This comes as a tablet, capsule, or liquid. You take it with food twice a day, in the morning and evening, for 24 to 48 weeks or longer.

Sofosbuvir (Sovaldi) with interferon and ribavirin. Take this tablet at the same time every day with food. You have to take it along with ribavirin and/or interferon, and you'll probably be on it for 12 to 24 weeks.

Ombitasvir-paritaprevir- ritonavir (Technivie). You'll take this tablet by mouth, possibly along with ribavirin.

Ombitasvir-paritaprevir-dasabuvir-ritonavir (Viekira Pack). This treatment is a combo of pills: two that you'll take once a day, and one you'll take twice with meals. You'll take it for 12 to 24 weeks.

Sofosbuvir-velpatasvir-voxilaprevir (Vosevi). This combination is approved to treat adults with chronic HCV, either with no cirrhosis or with compensated cirrhosis (the stage of the disease that doesn't have symptoms), who've already had certain treatments.

Elbasvir-grazoprevir (Zepatier). This once-daily pill has cured the disease in as many as 97% of those treated.

What Are the Side Effects of Hepatitis C Medications?

The most common effects of hepatitis C drugs depend on the medicine and often include:

Flu-like symptoms

Fatigue

Hair loss

Headache

Low blood counts

Trouble thinking

Nervousness

Depression

What Are the Complications of Hepatitis C?

About 75% to 85% of people who have it get a long-term infection called chronic hepatitis C. If the condition goes untreated, it can lead to:

Cirrhosis, or scarring of the liver

Liver cancer

Liver failure

Can You Prevent Hepatitis C Infection?

There's no vaccine to prevent hepatitis C. To help avoid getting the virus:

Use a latex condom every time you have sex.

Don't share personal items like razors.

Don't share needles, syringes, or other equipment when injecting drugs.

Be careful if you get a tattoo, body piercing, or manicure. The equipment may have someone else's blood on it.

Can Hepatitis C Be Cured?

The goal of antiviral medications is a condition called sustained virologic response. If your blood tests negative for the virus 3 months after you complete treatment, you're considered cured.

(4)Non-Alcoholic Fatty Liver Disease (NAFLD)

Non-alcoholic fatty liver disease (NAFLD) is the term for a range of conditions caused by a build-up of fat in the liver. It's usually seen in people who are overweight or obese.
A healthy liver should contain little or no fat. It's estimated up to 1 in every 3 people in the UK has early stages of NAFLD, where there are small amounts of fat in their liver. Early-stage NAFLD does not usually cause any harm, but it can lead to serious liver damage, including cirrhosis, if it gets worse. Having high levels of fat in your liver is also associated with an increased risk of serious health problems, such as diabetes, high blood pressure and kidney disease. If you already have diabetes, NAFLD increases your chance of developing heart problems. If detected and managed at an early stage, it's possible to stop NAFLD getting worse and reduce the amount of fat in your liver.

Stages of non-alcoholic fatty liver disease (NAFLD)

NAFLD develops in 4 main stages. Most people will only ever develop the first stage, usually without realizing it. In a small number of cases, it can progress and eventually lead to liver damage if not detected and managed.

The main stages of NAFLD are: Simple fatty liver (steatosis) – a largely harmless build-up of fat in the liver cells that may only be diagnosed during tests carried out for another reason

Non-alcoholic steatohepatitis (NASH) – a more serious form of NAFLD, where the liver has become inflamed; this is estimated to affect up to 5% of the UK population

Fibrosis – where persistent inflammation causes scar tissue around the liver and nearby blood vessels, but the liver is still able to function normally
Cirrhosis – the most severe stage, occurring after years of inflammation, where the liver shrinks and becomes scarred and lumpy; this damage is permanent and can lead to liver failure (where your liver stops working properly) and liver cancer

It can take years for fibrosis or cirrhosis to develop. It's important to make lifestyle changes to prevent the condition getting worse.

(5) Cirrhosis of the liver describes a condition where scar tissue gradually replaces healthy liver cells. It is a progressive disease, developing slowly over many years. If it is allowed to continue, the buildup of scar tissue can eventually stop liver function.

For cirrhosis to develop, long-term, continuous damage to the liver needs to occur. When healthy liver tissue is destroyed and replaced by scar tissue, the condition becomes serious, because it can start blocking the flow of blood through the liver. This MNT Knowledge Center article explains the symptoms, causes, and treatments of liver cirrhosis, including information about complications.

Symptoms

One of the primary methods of diagnosis is through a blood test. Symptoms are not common during the early stages of cirrhosis. However, as scar tissue accumulates, the ability of the liver to function properly is undermined. The following signs and symptoms may occur:

Blood capillaries become visible on the skin on the upper abdomen.

Fatigue

Insomnia

Itchy skin

Loss of appetite

Loss of bodyweight

Nausea

Pain or tenderness in the area where the liver is located

Red or blotchy palms

Weakness

The following signs and symptoms may appear as liver cirrhosis progresses:

Accelerated heartbeat

Personality changes

Bleeding gums

Lost mass in the body and upper arms

Difficulties processing drugs and alcohol

Confusion

Dizziness

Fluid buildup on ankles, feet, and legs, known as edema

Hair loss

Higher susceptibility to bruising

Jaundice, or yellowing of the skin, whites of the eyes, and tongue

Treatment

If the cirrhosis is diagnosed early enough, damage can be minimized by treating the underlying cause or the various complications that arise.

Treatment for alcohol dependency: It is important for the patient to stop drinking if their cirrhosis was caused by long-term, regular heavy alcohol consumption. In many cases, the doctor will recommend a treatment program for treating alcohol dependency.

QUESTION 2- WHY DO WE HAVE THE PORTAL VEIN OR THE LIVER RECEIVING MORE BLOOD FROM THE VEIN THAN THE ARTERY?

The portal vein provides about two thirds of the blood. This blood contains oxygen and many nutrients brought to the liver from the intestines for processing. The hepatic artery provides the remaining one third of blood. This oxygen-rich blood comes from the heart and provides the liver with about half of its oxygen supply. Receiving blood from two blood vessels helps protect the liver: If one of these blood vessels is damaged, the liver can often continue to function because it receives oxygen and nutrients from the other blood supply.

Blood leaves the liver through the hepatic veins. This blood is a mixture of blood from the hepatic artery and from the portal vein. The hepatic veins carry blood to the inferior vena cava the largest vein in the body which then carries blood from the abdomen and lower parts of the body to the right side of the heart.

Blood vessel (vascular) disorders of the liver usually result from inadequate blood flow whether into or out of the liver. If the problem is blood flow out of the liver, blood backs up in the liver, causing congestion which can result in an enlarged liver. In either case, liver cells do not receive enough blood (called ischemia) and thus are deprived of oxygen and nutrients. In ischemic cholangiopathy, it is the bile ducts that do not receive enough blood.