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18/mhs07/007
Pharmacology
Question:Why do we have the portal vein or the liver receiving more blood from the vein that it receives from the artery.
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.
Discuss 5 diseases conditions of the liver.
• Primary Biliary Cholangitis: it is an auto-immune disease that causes
progressive destruction of the bile ducts. Bile ducts carry bile, a chemical that helps you digest. When the ducts are injured, the bile backs up inside your liver and scars it. Women come down with this more often than men.
SYMPTOMS: they develop over the next five to 20 years. Commonly early symptoms are:
• Fatigue
• Itchy skin
• Dry eyes and mouth.
CAUSES are not clear, but is considered an auto-immune disease in which the body turns against its own cells.the liver inflammation seen in primary biliary cholangitis starts when certain types of white blood cells called T cells (T lymphocytes) start to collect in the liver. Normally, these immune cells detect and help defend against germs, such as bacteria. But in primary biliary cholangitis, they mistakenly destroy the healthy cells lining the small bile ducts in the liver.
RISK FACTORS that may increase an individual's the risk of primary biliary cholangitis are:
- Sex: most people with primary biliary cholangitis are women
- Age: it's mostly to occur in people 30-60 years old.
- Genetic factors: you've more likely to get the condition if you have a family member
who has or had it.
- Geography: it's most common in Northern Europe and North America.
COMPLICATIONS are: as the liver damage worsens, primary biliary cholangitis can cause

serious health problems, including:
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Liver scarring(cirrhosis): which makes it difficult for your liver to work and may lead to liver failure.
Increased pressure in the portal vein(portal hypertension): blood from your intestine, spleen and pancreas enters your liver through a large blood vessel called the portal vein.
Enlarged spleen(splenomegaly): your spleen becomes swollen with white blood cells and platelets because the body no longer filters toxins out of the bloodstream as it should.
Enlarged veins(varices): when blood flow through portal vein is slowed or blocked.
Liver Cell Adenoma: Hepatic adenoma is an uncommon, benign liver tutor basically a tumour that doesn't have cancer. It is also known as hepatocellular adenoma or liver cell adenoma. Hepatic

adenoma is extremely rare it mostly affects women, women who take birth control pills for a long time are more prone than other people to develop it. There's a small chance the tumour could eventually turn into cancer.

SYMPTOMS: Hepatic adenoma doesn't often cause symptoms. Though sometimes it causes mild symptoms, such as pain, nausea, or a full feeling. This typically occurs when the tumour is large enough to put pressure on neighbouring organs and tissues. A ruptured adenoma is serious. It can cause:

- Sudden abdominal pain
- Low blood pressure
- Internal bleeding.

In rare cases, it can be life-threatening.

RISK FACTORS for hepatic adenoma is the use of estrogen-based oral contraceptive pills. Pregnancy can also increase an individual's risk. Other risk factors are:

- Steroid use
- Barbiturate use
- Type 1 diabetes
- Hemochromatosis
- Glycogen storage diseases type 1 and type 3

TYPES OF HEPATIC ADENOMA

- Inflammatory

- HNF1A-mutated
- *β*-catenin activated is seen in 10-15 percent of cases
- Around 10-25 percent of hepatic adenoma are unclassified.

COMPLICATIONS of hepatic adenoma. When left untreated, hepatic adenomas can rupture spontaneously. This can cause abdominal pain and internal bleeding. A rupture hepatic adenoma requires medical treatment.

- Hemochromatosis: a disorder where too much from builds up in the body. Sometimes it's called "iron overload". Normally, the intestines absorb just the right amount of iron from the foods you eat. But in hemochrombtosis, the body absorbs too much, and it has no way to get rid of it. So, the body stores the excess iron in he joints and in organs like the liver, heart and pancreas. This damages them. If not treated on time, hemochrombtosis can make the organs to stop working. They are classified into two:

- Primary hemochrombtosis; this is hereditary, meaning it runs in families. If an individual gets two of the genes that cause it, one from the mother and one from the father, he/she is likely to have a high risk of getting the disorder.

- Secondary hemochrombtosis: this happens because of other conditions the individual might have and these include:

- certain kinds of anemia
- liver disease
- getting a lot of blood transfusions.

SYMPTOMS up to half of people who have hemochrombtosis don't get any symptoms. In men, symptoms tend to show up between ages 30 and 50. And in women often don't show signs of this condition until they're over 50 or past menopause. That maybe because they loose iron when they

get their periods and give birth. Symptoms of hemochrombtosis may include:

- Pain in joints, especially knuckles
- Feeling tired
- Unexplained weight loss
- Skin that has a bronze or grey colour
- Pain in the belly
- Loss of sex drive

- Loss of body hair
- Heart flutter

Sometimes people don't get symptoms of hemochrombtosis until other problems arise. These may include;

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Liver problems, including cirrhosis(scarring of the liver) Diabetes
Abnormal heartbeat
Arthritis
Erectile dysfunction (trouble having an erection)
Hyperoxaluria: is a condition that occurs when there is too much oxalate in

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your urine. Oxalate, a natural chemical in your body and also contained in some foods, is normally eliminated from the body through the kidneys in the urine(and can also be eliminated through stool).Too much oxalate in the body can cause some serious health problems. And excess amount of oxalate can combine with calcium in the urine and cause kidney stones and crystals form. Recurrent kidney stones and crystals can damage the kidney and lead to kidney failure.

SYMPTOMS of hyperoxaluria can develop anytime from infancy to later adulthood(over 70 years of age). The most common initial symptom is usually kidney stones. However, initial symptoms can vary from mild to severe. About 50 percent of patients with primary hyperoxaluria experience kidney failure by age 30. Older children and adults who develop primary hyperoxaluria tens to have better outcomes. The symptoms include:

- Pain in the lower back or side of body. Pain can start as dull ache that may come and go.
- Nausea and/or vomiting with pain
- Blood in urine.
- Pain when urinating.
- Unable to urinate
- Feeling the need to urinate more often
- Fever/chills.
- Urine that smells bad or looks cloudy.It is sometimes called Bird's disease, after

Golding Bird, who first described the condition.

CAUSES of hyperoxaluria: there are two types of hyperoxularia,

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Primary hyperoxaluria: this is a rare, genetic (inherited) disorder of the liver in which the liver either does not produce enough enzymes to prevent the overproduction of oxalate or the enzymes do not work properly.

Secondary hyperoxaluria:is condition in which excess oxalate is absorbed into the gastrointestinal (GI) tract and then excreted in the urine. The reasons for increased absorption can be due to eating foods that contain high levels of oxalates or having medical conditions that cause the GI tract to absorb more oxalate (such as Crohn's disease, inflammatory bowel disease, gastric bypass and other disorders in which nutrients are not properly absorbed.)

Bile Duct Cancer(cholangiocarcinoma): Cholangiocarcinoma is cancer that forms in the slender tubes (bile ducts) that carry the digestive fluid bile. Bile ducts connect the liver to the gallbladder and to the small intestine. This condition, also known as bile duct cancer, is an uncommon form of cancer that occurs mostly in people older than age 50, though it can occur at any age. Cholangiocarcinoma can be divided into different types based on where the cancer occurs in the bile ducts:

- Intrahepatic cholangiocarcinoma occurs in the parts of the bile ducts within the liver and is sometimes classified as a type of liver cancer.
- Hilar cholangiocarcinoma occurs in the bile duct just outside of the liver. This type is also called perihilar cholangiocarcinoma.
- Distal cholangiocarcinoma occurs in the portion of the bile duct nearest to the small intestine.

Cholangiocarcinoma is a type of tutor that is ver difficult to treat. SYMPTOMS: signs and symptoms of cholangiocarcinoma include:

- Yellowing of the skin and the whites of the eyes(jaundice).
- Intensely itchy skin
- White-colored stools
- Fatigue
- Abdominal pain
- Unintended weight loss.

CAUSES: cholangiocarcinoma occurs when cells in the bile ducts develop changes

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(mutations) in their DNA- the material that provides instructions for every chemical process in the body. DNA mutations cause changes in the instructions. One result is that cells may begin to grow out of control and eventually form a tumour.

RISK FACTORS:

- Primary sclerosiamo colangiti
- Chronic liver disease.
- Bile duct problems present at birth
- Older age
- Smoking
- A liver parasite.