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BIOGRAPHY

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RESEARCH INTREST

- Virology, Epidemiology and molecular epidemiology of viral hepatitis (A, B, C and E) in Estonia. Genetic variability of hepatitis C virus in relation to response to antiviral therapy

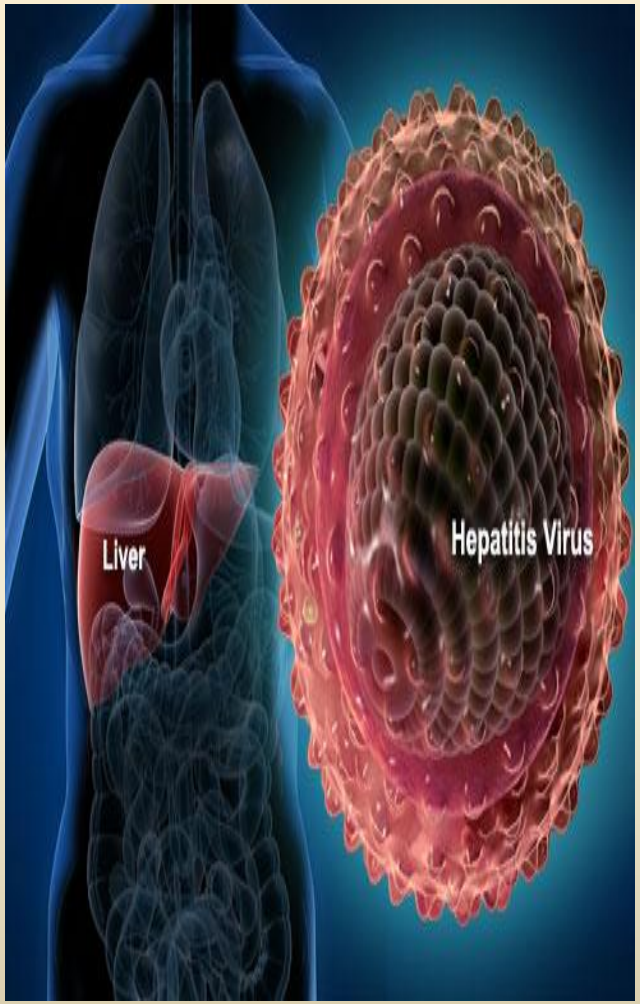
PUBLICATION

- **Amino Acid Polymorphisms Within the Entire HCV NS5A Region in Estonian Chronic HCV 1b Patients With Different Treatment Response.** Tatiana Kuznetsova, Tatjana Tallo, Vadim Brjalin, Irina Reshetnjak, Riina Salupere, Ljudmilla Priimagi, Olga Katargina, Maria Smirnova, Juris Jansons, Valentina Tefanova Hepat Mon 2013 14;13(12):e14481. Epub 2013 Dec 14
- **Sarcoidosis and chronic hepatitis C: a case report.** Vadim Brjalin, Riina Salupere, Valentina Tefanova, Kaiu Prikk, Natalia Lapidus, Enn Jõeste World J Gastroenterol 2012 Oct;18(40):5816-20
- **Efficacy of peginterferon alpha-2A and ribavirin combination therapy in treatment-naive Estonian patients with chronic hepatitis C.** Vadim Brjalin, Riina Salupere, Tatjana Tallo, Tatiana Kuznetsova, Ljudmilla Priimägi, Valentina Tefanova Cent Eur J Public Health 2012 Jun;20(2):150-5
- **The trends and risk factors for hepatitis B occurrence in Estonia.** Gerli Paat, Anneli Uusküla, Valentina Tefanova, Tatjana Tallo, Ljudmilla Priimägi, Kalle Ahi Cent Eur J Public Health 2009 Jun;17(2):108-11
- **D2: major subgenotype of hepatitis B virus in Russia and the Baltic region.** Tatjana Tallo, Valentina Tefanova, Ljudmilla Priimägi, Jelena Schmidt, Olga Katargina, Michail Michailov, Sergey Mukomolov, Lars Magnius, Heléne Norder J Gen Virol 2008 Aug;89(Pt 8):1829-39

What is Hepatitis?

- Hepatitis is swelling and inflammation of the liver.
- Hepatitis is most commonly caused by a viral infection. There are, however, other causes of hepatitis. These include autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins and alcohol.

INTRODUCTION



- The liver is located on the upper right side of the abdomen. It performs many critical functions that affect metabolism throughout the body, including:
- bile production that is essential to digestion
- filtering of toxins from the body
- excretion of bilirubin, cholesterol, hormones, and drugs
- metabolism of carbohydrates, fats, and proteins
- activation of enzymes (specialized proteins essential to metabolic functions)
- storage of glycogen, vitamins (a, d and k), and minerals
- synthesis of plasma proteins, such as albumin
- synthesis of clotting factors

- The Five Types of Viral Hepatitis
- **Hepatitis A**
- This type derives from an infection with the Hepatitis A virus (HAV). This type of hepatitis is most commonly transmitted by consuming food or water that has been contaminated by feces.
- **Hepatitis B**
- This type derives from an infection with the Hepatitis B virus (HBV). This type is transmitted through puncture wounds or contact with infectious bodily fluids (such as blood, saliva or semen). Injection drug use, sex with an infected partner, or sharing razors with an infected person is activities that increase risk. It is estimated that 1.25 million people in the United States have chronic hepatitis B and 350 million people worldwide live with this chronic disease (CDC).
- **Hepatitis C**
- This type comes from the Hepatitis C virus (HCV). This type of hepatitis is transmitted through direct contact with infected bodily fluids (typically through injection drug use and sexual contact). HCV is among the most common blood borne viral infections in the United States. According to the CDC, 3.2 million Americans and 170 million people worldwide are living with a chronic form of this infection (CDC).

- **Hepatitis D**
- This is also called “delta hepatitis.” Hepatitis D is a serious liver disease caused by the Hepatitis D virus (HDV), which is contracted through puncture wounds or contact with infected blood. This is a rare form of hepatitis that occurs in conjunction with hepatitis B infection, and it is very uncommon in the United States.
- **Hepatitis E**
- Hepatitis E is a waterborne disease caused by the Hepatitis E virus (HEV). Hepatitis E is mainly found in areas with poor sanitation and is typically caused by ingesting fecal matter. This disease is uncommon in the U.S.. However, cases of Hepatitis E have been reported in the Middle East, Asia, Central America, and Africa (CDC).
- Hepatitis A and E are normally contracted from eating contaminated food or drinking contaminated water. Hepatitis B, C, and D are contracted through contaminated blood. These forms of hepatitis can be either acute or chronic, although types B and C usually become chronic.

SYMPTOMS:

- fatigue
- flu-like symptoms
- dark urine
- pale-colored stool
- abdominal pain
- loss of appetite
- unexplained weight loss
- yellow skin and eyes (may be signs of jaundice)

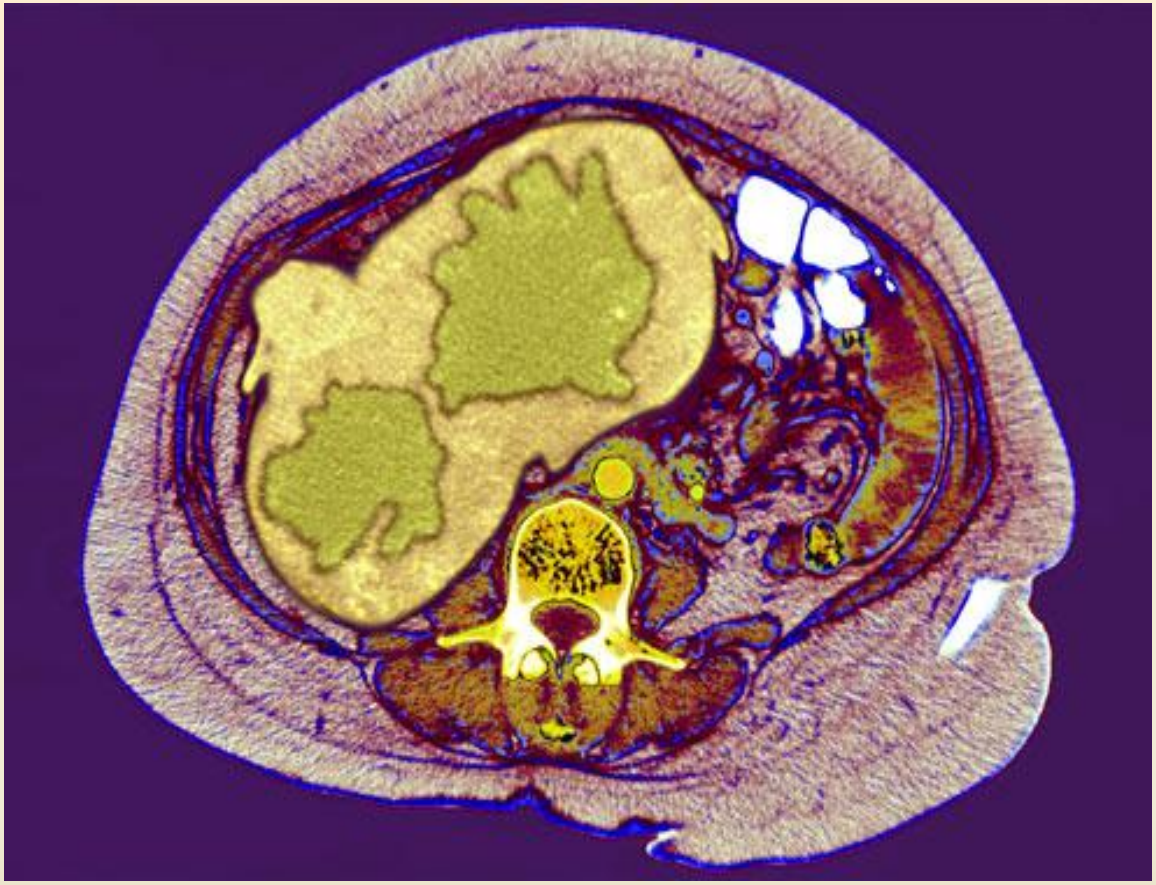
CAUSES

- **Alcohol**
- Hepatitis can be caused by liver damage from excessive alcohol consumption. This is sometimes referred to as “alcoholic hepatitis.” The alcohol causes the liver to swell and become inflamed. Other toxic causes include overuse of medication or exposure to poisons.
- **Autoimmune Disease**
- The immune system may mistake the liver as a harmful object and begins to attack it, hindering liver function.

- **Liver Biopsy**
- A liver biopsy is a minimally invasive test that involves the doctor taking a sample of tissue from your liver. This is closed procedure. In other words, it can be done through the skin with a needle and does not require surgery. This test allows the doctor to determine if an infection or inflammation is present or if or liver damage has occurred.
- **Liver Function Tests**
- Liver function tests use blood samples to determine how efficiently the liver works. These tests check how the liver clears blood waste, protein, and enzymes. High liver enzyme levels may indicate that the liver is stressed or damaged**.**

- **Ultrasound**
- An abdominal ultrasound uses ultrasound waves to create an image of the organs within the abdomen. This test will reveal fluid in the abdomen, an enlarged liver, or liver damage.
- **Blood Tests**
- Blood tests used to detect the presence of hepatitis virus antibodies and antigen in the blood will indicate or confirm which virus is the cause of the hepatitis.
- **Viral Antibody Testing**
- Further viral antibody testing may be needed to determine if a specific type of the hepatitis virus is present.

- Viral hepatitis is the top cause of liver cancer, so people with chronic hepatitis B or C need monitoring even if they feel healthy. Blood tests can detect proteins that suggest the presence of liver cancer. A biopsy is needed to determine if these areas are cancerous. Tumors that are found early may be surgically removed. But most liver cancers are difficult to treat.



Ultrasounds, CT scans, and MRIs can reveal abnormal lesions in the liver (seen here in green).

HOW HEPATITIS TREATED

- **Hepatitis A**
- Hepatitis A isn't usually treated. Bed rest may be recommended if symptoms cause a great deal of discomfort. If you experience vomiting or diarrhea, you will be put on a special diet created by your doctor to prevent malnutrition or dehydration. Vaccination can also prevent HAV infections by helping your body produce the antibodies that fight this type of infection. Most children receive the vaccination between ages 12 and 18 months. Vaccination is also available for adults.
- **Hepatitis B**
- Acute hepatitis B doesn't require specific treatment. Chronic hepatitis B is treated with anti-viral medications. This form of treatment can be costly, since the treatment must be followed for several months or years. Treatment for chronic hepatitis B also requires regular medical evaluations and monitoring to determine if the virus is progressing. The CDC recommends vaccinations for hepatitis B for all infants at birth. The vaccine is also recommended for all health care and medical personnel

- **Hepatitis C**
- Antiviral medications are used to treat both acute and chronic forms of hepatitis C. People who develop chronic hepatitis C are typically treated with a combination of antiviral drug therapies. They may also need further testing to determine the best form of treatment. People who develop cirrhosis (scarring of the liver) or liver disease as a result of chronic hepatitis C may be candidates for liver transplantation.
- **Hepatitis E**
- There are currently no specific medical therapies to treat hepatitis E. Because the infection is often acute, it typically resolves on its own. People with this type of infection are often advised to get adequate rest, drink plenty of fluids and nutrients, and avoid alcohol.

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