associated with a high mortality rate among pregnant women. What are the reasons for this?

This deadly phenomenon is only observed during the third trimester of pregnancy. There are some hypotheses, including viral replication in the placenta and hormonal changes during pregnancy, but none of them have been validated. HEV can infect many other animals, including monkeys, deer and hogs. However, high mortality rates during the third trimester have not been observed in experimental studies in monkeys. We still do not known the mechanism responsible for this.

HEV is transmitted through the fecal-oral route. As a result, public and personal hygiene is of great importance. Furthermore, an HEV vaccine has recently been developed in China, with good effectiveness according to the clinical trial data.

In addition, the hepatitis A virus (HAV) is another hepatitis virus transmitted through the fecal-oral route. Less than 3% of the young population in Taipei currently has antibodies against HAV. Although the hepatitis A vaccination is effective, the price of the vaccine decreases the willingness of some people to get vaccinated. However, I still advocate that all health care providers without hepatitis A antibodies should receive the vaccination. Doctors and nurses are at high risk because they are likely to be infected through contact with hepatitis A patients, especially when bathing or changing the diapers of infected children.

Any suggestions for medical students and young doctors?

Dream and don't give up!

As a doctor, your mission is to improve people's health. Try your best to take care of your patients or contribute by taking part in public health policies. You must follow your dreams, keep up your enthusiasm and never give up!

Featured Research

The gut microbiota may play a key role in age-dependent HBV clearance

Hepatitis B virus (HBV) is one of the most common infectious diseases worldwide. According to the World Health Organization, more than 2 billion people are infected with HBV, and 240 million people are chronic carriers. These chronic carriers have a higher risk of developing cirrhosis and hepatocellular carcinoma than the general population, placing a great burden on the health care system.

A unique feature of HBV infection in humans is that viral clearance depends heavily on the age of exposure. Ninety-five percent of adult-acquired infections lead to spontaneous clearance, whereas more than 90% of exposed neonates and 30% of children aged 1–5 years fail to resolve HBV and develop chronic infections. It is postulated that "liver tolerance" and "immune immaturity" to HBV result in high viral persistence in the early stage of life but that the maturation of liver immunity later in life allows for HBV clearance. However, this maturation process has not been clarified.

The liver has a unique blood supply system, with one-fourth of the blood supply coming from the hepatic artery and three-fourths of the blood supply coming from the portal vein, which collects blood from the gastrointestinal tract. As a result, it is plausible to speculate that the signal stimulating liver immunity may come from the gastrointestinal tract.

Who is sending out the messages?

In recent years, growing evidence has revealed that the gut microbiota may play a key role in immune system development. Although the liver is not in direct contact with these commensals, constant exposure to microbe-derived metabolites through the gut-liver axis may shape liver immunity. In neonates, the gut microbiota will gradually develop after oral intake and will become stable 2 to 3 years later, which is compatible with the development of liver immunity against HBV.

In January 2015, Professor

Chen and his team published their study, which was mainly about the relationship between the gut microbiota and liver immunity against HBV, in the Proceedings of the National Academy of Sciences of the United States of America (PNAS).

In this study, mice were transfected with HBV and studied. Adult mice (12 weeks old) cleared HBV within 6 weeks after transfection, while their young counterparts (6 weeks old) remained HBV-positive 26 weeks after transfection. In addition, antibiotic-induced sterilization of the gut microbiota at a young age prevented adult mice from rapidly clearing HBV. Possible molecular mechanisms of clearing HBV were elucidated by using mice with specific gene mutations.

Based on the above results, gut microbiota development may be associated with age-dependent HBV clearance. This relationship may guide new treatments aimed at helping neonates eradicate HBV.

Reference

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Helicobacter pylori eradication reduces the risk of gastric cancer

Gastric cancer is a major global health threat and is the third-leading cause of cancer deaths worldwide, as the disease causes more than 720,000 deaths per year globally. Gastric cancer detection during a symptomatic stage often results in poor survival and frequent recurrence despite the availability of various modalities that can be used as rescue treatments. As the size of the elderly population is continuously increasing, the International Agency for Research on Cancer has estimated that the current high incidence rate of gastric cancer will remain stable or even increase by 2030 without the development of effective measures for preventing the disease.

Helicobacter pylori is the most important etiologic factor for gastric cancer. It is estimated that 89% of non-cardiac gastric cancers, which account for 78% of gastric cancer cases, are attributable to *H. pylori* infection. Since *H. pylori* can be eradicated with a short-course of antibiotic treatment, identifying and eradicating *H. pylori* infection may represent an effective strategy for reducing the risk of gastric cancer.

However, in real-life settings, the magnitude of the benefit of *H. pylori* eradication with respect to the risk of subsequent gastric cancer development remains unclear. To address this important question, researchers from the Department of Internal Medicine and the Institute of Epidemiology and Preventive Medicine of National Taiwan University and Baylor College of Medicine in Houston, Texas, USA, have conducted a systematic review and me-