

Hepatitis B exposure may increase risk for pancreatic cancer

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In a first-of-its-kind finding, researchers at The University of Texas M. D. Anderson Cancer Center have discovered that exposure to the hepatitis B virus (HBV) may increase the risk of pancreatic cancer.

The study, published in the Oct. 1 edition of the *Journal of Clinical Oncology*, also suggests that patients with this lethal form of cancer treated with chemotherapy may face danger of reactivation of their HBV.

Pancreatic cancer is diagnosed in 37,000 people in the United States each year, and more than 34,000 people die of the disease annually, according to the American Cancer Society. It is often diagnosed in the late stages and is especially perplexing because few risk factors are known.

"If this study is validated, it will give us more information about the risk factors of pancreatic cancer and possibly even help prevent it in some cases," said lead author Manal Hassan, M.D., Ph.D., assistant professor in M. D. Anderson's Department of Gastrointestinal Medical Oncology.

HBV and hepatitis C virus (HCV) are major global health problems, affecting about 2 percent of the population worldwide. In the United States 1.25 million people have chronic HBV, while 3.2 million have chronic HCV. These systemic viruses can harm the body in a variety of ways, including traveling through the bloodstream and damaging tissues throughout the body.

The word "hepatitis" means "inflammation of the liver," and previous research has shown HBV and HCV are major causes of liver cancer. Little is known about their roles in other cancers. However, the proximity of the liver to the pancreas and the fact the pancreas and liver share common blood vessels and ducts make the pancreas a potential target for hepatitis viruses.

While this is the first study to examine whether exposure to HBV and HCV increases risk for pancreatic cancer, other research has indicated chronic HBV infection may impair pancreatic function and that HBV may replicate in the pancreas, Hassan said.

In this study, which began in 2000, 476 M. D. Anderson patients with early pancreatic cancer were identified. Additionally, 879 people without pancreatic cancer were matched with the patients by age, gender and race. All participants were interviewed for demographic and risk factors information.

Then researchers tested the blood of all participants for the presence of HCV and HBV antibodies, which indicate past exposure to HCV and HBV.

The prevalence of past exposure to HBV was significantly higher (7.6 percent) in people with pancreatic cancer than in healthy people (3.2 percent). However, exposure to HCV was not significantly different in the two groups.

In addition, the study confirmed previously reported risk associations of cigarette smoking, history of diabetes and a family history of pancreatic cancer.

People exposed to HBV may develop occult, or hidden, HBV infection. In these cases, the M. D. Anderson researchers say, there is a potential

for reactivation of HBV during chemotherapy, the most common treatment for pancreatic cancer. Chemotherapy may suppress the immune system, leading to viral replication of the HBV, the researchers explained.

"If these results are validated, physicians might want to test pancreatic cancer patients for HBV before administering chemotherapy," said senior author James Abbruzzese, M.D., professor and chair of M. D. Anderson's Department of Gastrointestinal Medical Oncology and associate medical director of the Gastrointestinal Center. "Reactivation of HBV could potentially cause liver damage and even liver failure."

Researchers stress these early results need to be studied further and plan to collaborate with other institutions to compare results among other populations and people who are actually infected with the virus. If they are confirmed, these results may offer new insight into pancreatic cancer, possibly even preventing some cases in the future.

"We are working hard to try to understand the factors that are risks to developing pancreatic cancer, particularly modifiable risks," Abbruzzese said. "If these results are confirmed, people at risk might be able to help prevent pancreatic cancer by getting an HBV vaccine."

Source: University of Texas M. D. Anderson Cancer Center

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