Does Viread for Hepatitis B Reduce Liver Cancer Risk More Than Baraclude?

Tenofovir was associated with a lower risk of hepatocellular carcinoma, but this might be related to other factors as well.

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People with hepatitis B who were treated with Viread (tenofovir disiproxil fumarate) may be significantly less likely to develop hepatocellular carcinoma (HCC)—the most common type of liver cancer—than those treated with Baraclude (entecavir), according to results from a large observational study presented at the 2019 International Liver Congress last week in Vienna.

However, only a small proportion of the study population used Viread and liver cancer was uncommon, so it may be too early to conclude that Viread is a superior option for hepatitis B treatment.

Over years or decades, chronic hepatitis B virus (HBV) infection can lead to liver cirrhosis, HCC and end-stage liver failure requiring a transplant. Nucleoside/nucleotide antivirals such as Viread, the newer Vemlidy (tenofovir alafenamide) and Baraclude can halt HBV replication during long-term treatment. Although these medications usually do not lead to a cure, keeping HBV suppressed reduces the chances of developing HCC, which mostly occurs in people who have already progressed to cirrhosis.

Terry Cheuk Fung Yip of the Chinese University of Hong Kong presented findings from an observational study of people with hepatitis B who were treated with either Viread or Baraclude. This type of study does not randomly assign similar people to different treatments, but rather observes what happens in real-world clinical use. Without randomization, people who use different treatments could have other differences that influence outcomes.

Viread and Baraclude are both potent and well-tolerated antivirals, and guidelines in many countries recommend them equally for first-line chronic HBV treatment, Yip noted as background. However, a recent Korean study found that Viread was associated with a 39 percent lower risk of HCC.

Yip's analysis included adults with chronic hepatitis B at all Hong Kong public hospitals and clinics

who were treated with Viread or Baraclude for at least six months between January 2008 and June 2018. People who already had HCC or other cancers at the start of the study were excluded. This was also the case for people with hepatitis C, hepatitis D or HIV coinfection and those previously treated with interferon or other nucleoside/nucleotide antivirals.

Of the more than 55,000 people treated with Viread or Baraclude, 29,350 were included in this analysis. Most of the excluded patients had pre-existing cancer, had hepatitis C, had previously tried other hepatitis B therapies, started treatment before 2008 or had less than six months of follow-up.

In the selected group, just 1,309 people started treatment with Viread while 28,041 started with Baraclude. Comparing the two groups, people who used Viread were more likely to be women, were 10 years younger on average (43 versus 53) and had fewer other health problems including diabetes and high blood pressure. In addition, Viread recipients were less likely to have cirrhosis (3 versus 13 percent), less likely to be hepatitis B e antigen (HBeAg) negative, had a lower HBV viral load, lower liver enzymes and more favorable biomarkers of liver function.

During the follow-up period, eight people treated with Viread and 1,386 of those treated with Baraclude developed liver cancer. The cumulative five-year HCC incidence was 1.1 percent in the Viread group versus 7.0 percent in the Baraclude group. Looking at single factors in isolation, the biggest risk factors for HCC were male sex (about double the risk) and having cirrhosis (nearly six-fold higher risk).

In a multivariate analysis that accounted for several risk factors, people treated with Viread had about a third of the risk of developing HCC as those who used Baraclude (hazard ratio 0.32). The researchers attempted to control for differences between the populations using propensity score weighting and other statistical techniques. Doing so brought the hazard ratio to 0.36, or about a 60 percent lower risk.

Yip noted that another study presented at the conference, this one from the United States, found that Asian patients who used Viread rather than Baraclude had about a 30 percent lower risk of HCC, while non-Asian people who took Viread actually had a higher liver cancer risk.

“Tenofovir was associated with a significantly lower risk of HCC than entecavir in this large population of adults with chronic HBV infection,” Yip said in a conference press release. “Although we recognize the inherent limitations of observational data, our findings are consistent with those of the Korean group.”

Given the differences in the populations treated with Viread versus Baraclude, the small proportion who received Viread and the low overall rate of liver cancer, it is too soon to say that Viread is a better hepatitis B treatment option for, but experts will be keeping their eyes open for further data to confirm these findings.

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