# Telbivudine Eliminates Mother-to-Child Hep B Transmission

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The antiviral drug Tyzeka (telbivudine), when taken in the second or third trimester of pregnancy, completely eliminated mother-to-child transmission of the hepatitis B virus (HBV)—as opposed to a 9 percent transmission rate in those not receiving any HBV treatment—in a study performed in China and published in Clinical Gastroenterology and Hepatology.

For the study, researchers followed 88 women between the 12th and 30th weeks of pregnancy at a hospital in Nanjing, China. All tested positive for hepatitis B e antigen (HBeAg) and hepatitis B surface antigen (HBsAg)—both markers of active hepatitis B infection. All the women also exhibited high viral loads and high levels of the enzyme alanine aminotransferase (ALT)—elevated ALT levels are a marker for liver problems.

The participants self-selected into two groups: a 53-member treatment group receiving 600 milligrams (mg) oral telbivudine daily until 28 weeks after giving birth, and a 35-member control group receiving no treatment.

Participants in the treatment group were told to stop taking telbivudine after delivery if they planned to breast-feed their infants. Thirteen study volunteers in the treatment group stopped therapy during the first month after birth to breast-feed, while the rest opted for formula feeding and kept taking the drug for the full 28 weeks.

All infants born during the study received prophylactic treatment in the form of the HBV vaccine and hepatitis B immunoglobulin administered within six hours of birth, along with the standard schedule of follow-up HBV immunization shots.

The researchers found that viral load remained unchanged in the control group but dropped significantly in the treatment group—down to undetectable levels among 58 percent of the treatment group. Liver enzyme (ALT) levels also returned to normal-indicating healthier liver function—more consistently among members of the treatment group.

In the treatment group, 77 percent had normal ALT levels one month after giving birth; this went up to 92 percent by the end of the study. In the control group, ALT levels normalized for 49 percent after one month and 71 percent at the end of the study.

At birth, all of the infants tested positive for HBeAg, while eight infants in the control group and two in the treatment group tested positive for HBsAg. Only three had detectable viral load—all in

the control group. But by 28 weeks, every infant in the treatment group had undetectable viral loads and tested negative for HBeAg and HBsAg. Meanwhile, three infants in the control group had detectable viral loads and tested positive for HBeAg and HBsAg, while five others tested positive for HBsAg.

According to the study authors, this is the first study covering telbivudine therapy in second and third trimester pregnancy.

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