

Earlier Treatment for Perinatally Acquired Hepatitis C Leads to Better Outcomes

Starting antiviral therapy at age 3 lowered the risk of liver complications and death and reduced health care costs.

April 29, 2024 By [Sukanya Charuchandra](#)

Starting direct-acting antiviral therapy for children with perinatally acquired [hepatitis C](#) at age 3 was linked to a longer life and lower health care costs, according to a mathematical modeling study published in [JAMA Pediatrics](#).

Hepatitis C virus (HCV) can be passed from mother to child. According to the Centers for Disease Control and Prevention, infants exposed to HCV during gestation or delivery should be tested for the virus at two to six months after birth. [Direct-acting antivirals \(DAAs\)](#) have been available for children ages 3 or older since 2021, but the clinical and economic benefits of early treatment are unclear.

Megan Rose Curtis, MD, of Massachusetts General Hospital, and colleagues sought to establish whether treating children with HCV at age 3 was more or less cost effective than treating older kids. The research team performed a modeling study to compare the clinical outcomes and economic impact of treating pediatric patients at ages 3, 6, 12 or 18 years. These scenarios were also compared against not treating children.

The model analyzed how the disease would progress in a simulated cohort of 1,000 children with HCV from the age of 3 years until death. To develop the model, the study authors used published data about the natural progression of pediatric hepatitis C, the efficacy of available therapies and health care expenses. The simulation focused on treatment with [Mavyret \(glecaprevir/pibrentasvir\)](#).

The researchers found that beginning treatment early led to lower average lifetime per-person health care costs and longer projected life expectancy. The mean lifetime health care costs were \$148,162 for those who began antiviral therapy at age 3, \$164,292 for those who started at age 6, \$171,909 for those who started at age 12 and \$195,374 for those who did so at age 18. The projected life expectancy was 78.36, 76.10, 75.99 and 75.46 years, respectively.

Overall, for the simulated cohort, early treatment at 3 years old prevented 89 estimated cases of cirrhosis, 27 cases of liver cancer and 74 liver-related deaths compared with starting therapy at age 6.

“These study results showed that DAA therapy for 3-year-old children was projected to reduce health care costs and increase survival compared with deferral until age 6 years or older,” the researchers wrote. “Measures to increase DAA access for young children will be important to realizing these benefits.”

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