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Reducing mother-to-child transmission of HCV: Is it attainable with a multidisciplinary approach?

To the Editor:

We read with great interest Modin *et al.* in the November 2018 edition of *Journal of Hepatology*.¹ Given the demonstrated long-term disease sequelae for children infected with hepatitis C virus (HCV) particularly through mother-to-child transmission (MTCT), we agree that there is a need for earlier detection and treatment of HCV in children. However, in the absence of universal guidelines for HCV screening during pregnancy, the antepartum case definition of HCV is inadequate, and coordination of maternal care is challenging. Therefore, MTCT is insufficiently prevented, and HCV diagnosis in children is suboptimal. With preliminary data of our experience with a cohort of women with HCV during pregnancy in New York State, we would like to emphasize the importance of improving the prevention of MTCT of HCV.

In the study by Modin *et al.*,¹ early diagnosis and treatment of childhood HCV was recommended, because cirrhosis occurred at high rates and significantly impacted mortality in individuals who acquired HCV through MTCT. Of the measured risk factors, cirrhosis was the only risk factor that increased mortality in patients with childhood HCV infection (odds ratio [OR] 6.2; 95% CI 2.6–14.7; $p < 0.001$).¹ Perinatally infected children (11%, $n = 1,049$) developed cirrhosis at a far earlier age (36 years, range 17–53) than those who acquired HCV as adolescents through other means.¹ Given the earlier age of cirrhosis onset, treatment of HCV should not be delayed beyond childhood.

Despite the importance of preventing childhood HCV, perinatal HCV is difficult to detect due to a lack of screening, slow-onset symptoms, and poor adherence (43%) to the required

18 months of follow-up after birth.² Given the long follow-up required for diagnosis, these low rates indicate a need for improved maternal education, coordination of care, and patient-physician relationships.³

We sought to address these gaps in care by bringing together a multidisciplinary team of obstetricians, pediatric infectious disease providers, and hepatologists to coordinate care for women with HCV during pregnancy at 1 urban ($n = 13$) and 1 suburban ($n = 21$) center in New York State since September 2017. In total, 34 patients with HCV during pregnancy were seen and managed in our practices. Upon detection of HCV during routine prenatal care, 26/34 (76%) attended at least 1 liver specialty visit while pregnant. However, of the 18 women who delivered at the primary institution, only 8 (44%) returned to the liver clinic postpartum. This contrasts with the 15/20 (75%) women who returned to the obstetrics clinic postpartum. This data suggests that care coordinators are sorely needed to improve adherence, particularly during the postpartum period, to match that of the obstetrics clinic.

In addition to coordinating care, we sought to treat HCV as soon as possible. Six patients were treated for HCV with direct-acting antivirals post-delivery, most after cessation of breastfeeding. One patient, who was co-infected with HIV and had acquired HCV through MTCT herself, was treated intrapartum to decrease the risk of MTCT. Earlier treatment benefits women with HCV and active injection drug use, as they are less likely to use contraception (56% vs. 81%)⁴ and are at greater risk of unplanned pregnancy than the general population (89% vs. 31–47%).⁵ Furthermore, earlier treatment utilizes Medicaid's expanded inclusion criteria for women during pregnancy and

in the immediate postpartum period. Women with HCV are less likely to have private insurance and are often uninsured (54.3%).⁶ Among those who qualify for HCV treatment, only about half are insured (66.7% vs. 36.3% of total HCV patients).⁶

Detecting HCV during pregnancy will not only benefit mothers, but their prior children as well. To date, no cases of MTCT have been identified in our cohort, although many of the women in our cohort have not reached 18 months post-delivery. In our data, 7/21 (66.7%) women had children prior to the diagnosis of HCV. When counseling was provided to screen prior children, one 11-year-old child was found to have HCV infection. These children may carry HCV undetected to adulthood. For at least 2 women, the most likely risk factor for their infection was MTCT from their mothers. With recent research demonstrating safety and efficacy of direct-acting antivirals in children as young as 6 years old, earlier detection does lead to earlier treatment in children affected by MTCT.⁷ We hope that with continued collaboration across medical specialties, as well as increased resources dedicated to care coordination in this setting, MTCT can be eradicated for the next generation.

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Conflict of interest

Dr. Marcos reports grants from FOCUS Gilead, during the conduct of the study and other from Gilead, outside the submitted work; Dr. Patel reports personal fees from Gilead Sciences and AbbVie outside the submitted work; Dr. Kushner reports other from Gilead outside the submitted work.

Please refer to the accompanying [ICMJE disclosure](#) forms for further details.

Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhep.2019.01.032>.

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