Published in final edited form as:

Obstet Gynecol. 2016 August ; 128(2): 229–230. doi:10.1097/AOG.0000000000001536.

Hepatitis C Virus Screening in Pregnancy: Is it Time to Change Our Practice?

Mona R Prasad, DO, MPH [Clinical Associate Professor]

Mona Prasad DO MPH, Maternal Fetal Medicine Staff, Mount Carmel Medical Systems and Department of OB/GYN, Division of Maternal Fetal Medicine, Wexner Medical Center at The Ohio State University, Columbus, Ohio; mona.prasad@mchs.com.

In this issue, Fernandez, et al¹ (see page XXX) challenge us to acknowledge that the current risk factor-based approach to hepatitis C virus (HCV) screening in pregnancy may require closer scrutiny. Their study was conducted in Appalachia, where, as in so many parts of our country, opiate abuse is reaching an epidemic proportion. Prescription narcotic, as opposed to heroin, is the predominant opiate of abuse, either by injection or snorting through straws. The rate of HCV rose 364% between 2006 and 2012, so the authors adopted HCV screening for all pregnant women in their setting.

As the title suggests, the authors have identified sharing of snorting straws to be a novel risk factor for HCV, not currently included in the American College of Obstetricians and Gynecologists–endorsed or Centers for Disease Control and Prevention–endorsed risk factor-based screening protocols.^{2,3} In their cohort of 189 pregnant women, none had any of the accepted risk factors for HCV testing: blood transfusion, clotting factor, organ transplant before 1992, hemodialysis, or human immunodeficiency virus (HIV) co-infection. A policy of testing for HCV only in women with identifiable risk factors would have missed 28% of those infected, highlighting the gaps that arise when risk factor assessment guides screening practices.

To date, universal screening for HCV in pregnancy has not been supported or recommended.^{4,5} Understanding the current stance requires us to revisit the fundamental principles of screening: the test must be inexpensive, highly sensitive and specific, able to identify a disease of clinical significance such that if left untreated would cause significant morbidity, and the disease must have an acceptable treatment course. While the screening test for HCV is inexpensive and highly sensitive and specific, it does not meet some of the traditional requirements for screening. Sequelae associated with HCV infection are often delayed for many years and, most importantly, there are no proven interventions for mother-to-child transmission. Currently established therapies are expensive, associated with major side effects, and are not currently recommended in pregnancy. For these reasons, screening during pregnancy has been limited to women at the highest risk of infection. However, the failure to fulfill the standard criteria for screening does not diminish the urge to screen for a

Financial Disclosure

Dr. Prasad is a national PI for an MFMU-referenced observational study of hepatitis C virus in pregnancy.

disease that is increasingly prevalent, and may be treatable with emerging directly acting antivirals .⁶

We are faced with an absence of evidence that supports our intuition about HCV in pregnancy. Current practitioners seek to employ the same widespread screening and aggressive treatment approaches that have nearly eliminated mother-to-child transmission of HIV in the United States. We are hungry for a similar victory in the setting of HCV. We are drawn to similar public health strategies despite the failure to meet the established guidelines for population-based screening, but must resist the urge to change practice too quickly. The rate of mother-to-child transmission of HIV and HCV are quite different, with HCV having a mother-to-child transmission rate of ~5% compare to the rate of ~25% seen with HIV among untreated individuals. In contrast to HIV, there is a dearth of information about biological mechanisms for mother-to-child transmission of HCV and a consequent lack of approved interventions to prevent mother-to-child transmission. While direct-acting antivirals seem promising, we cannot assume that antepartum therapy to drive down HCV viral loads is the answer. With a baseline mother-to-child transmission rate of ~5%, it is imperative that we understand which mothers are at highest risk for transmission of HCV, so that intervention trials can be appropriately designed.

Fortunately, we are well-positioned to address these key data gaps in the near future. The *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Maternal Fetal-Medicine Units Network is currently conducting an observational study of HCV positive pregnant women, with the goal of identifying contemporary risk factors for maternal disease and risk factors for women most likely to transmit HCV to their offspring. We hope to identify thresholds of viremia below which mother-to-child transmission does not occur, and to determine whether planned cesarean delivery can prevent mother-to-child transmission. Information from this observational study will inform interventional trials that may improve care for HCV-positive women and their children.

Until care of HCV-positive women becomes evidence-based, we thank authors like Fernandez and colleagues for thinking outside the box and encouraging us to question the status quo. If we continue to pursue risk factor-based screening, we must become comfortable with asking difficult questions surrounding commonly accepted risk factors. We must also take information offered from studies like this to validate and contemporize those risk factors. This study suggests that currently cited risk factors for HCV screening in the general population may not be applicable in pregnant women. The need for HCV testing remains uncertain^{2,3} in persons using intranasal cocaine and other noninjecting illegal drugs, persons with a history of tattooing or body piercing, and persons with a history of multiple sex partners or sexually transmitted diseases. Data presented by Fernandez and colleagues suggest that these exposures could be more salient in pregnancy than the current guidelines suggest.¹

Are we ready to adopt universal screening for HCV in pregnancy? A recent study suggests that 85-95% of HCV-infected children in the United States have not yet been identified with current strategies⁷. Adoption of universal screening would ensure that children born to HCV-infected women, a population for whom the American College of Obstetricians and

Gynecologists and Centers for Disease Control and Prevention recommend screening, are properly identified and get appropriate postnatal evaluation and treatment. Aside from this clear benefit to the public's health, we are currently hard-pressed to make the recommendation for universal screening.

While we are not yet ready to change the screening guidelines for HCV in pregnancy, the landscape is rapidly evolving. With the advent of direct-acting antivirals that could indeed have utility for the treatment of HCV in pregnancy and the promise of new data on the horizon to help guide our care of HCV-positive women in pregnancy, we may very well be rewriting the epidemiology of hepatitis C in the near future. Until that day comes, this remains an exciting and fruitful area of research.

Biography

References

1. Fernandez N, Towers CV, Wolf L, Hennessey MD, Weitz B, Porter S. Sharing of snorting straws and hepatitis C virus infection in pregnant women. *Obstet Gynecol.* 2016; 128:xxx-xx.
2. Viral hepatitis in pregnancy. ACOG Practice Bulletin No. 86. American College of Obstetricians and Gynecologists. *Obstet Gynecol.* 2007; 110:941-56. [PubMed: 17906043]
3. MMWR Recommendations and reports : Morbidity and mortality weekly report Recommendations and reports / Centers for Disease Control. Vol. 47. Centers for Disease Control and Prevention; 1998. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease.; p. 1-39.
4. Prasad MR, Honegger JR. Hepatitis C in Pregnancy. *Am J Perinatol.* Feb. 2013; 30(2):149-59. [PubMed: 23389935]
5. Plunkett BA, Grobman WA. Routine hepatitis C virus screening in pregnancy: a cost-effectiveness analysis. *American journal of obstetrics and gynecology.* 2005; 192:1153-61. [PubMed: 15846195]
6. Spera AM, Eldin TK, Tosone G, Orlando R. Antiviral therapy for hepatitis C: Has anything changed for pregnant/lactating women? *World J Hepatol.* Apr 28; 2016 8(12):557-65. [PubMed: 27134703]
7. Delgado-Borrego A, Smith L, Jonas MM, et al. Expected and actual case ascertainment and treatment rates for children infected with hepatitis C in Florida and the United States: epidemiologic evidence from statewide and nationwide surveys. *The Journal of pediatrics.* 2012; 161:915-21. [PubMed: 22765955]