

Medical Writers' Circle

a series of articles

written by medical

professionals about the

management and

treatment of Hepatitis C

Hepatitis C virus (HCV) infection is common in the US, estimated to affect some 3 million persons. Transmission of the virus is parenteral, that is, transmitted by blood. Statistically, the most common risk factor for HCV infection is current or remote drug use, but this mode of infection accounts for only half of known cases. It is clear that HCV can be transmitted via other exchanges of bodily fluids, including sexual contact and, the focus of this report, vertical (mother to infant) transmission.

Estimates of the prevalence of HCV infection in pregnant women vary widely among studies, ranging from 0.1% to 4.5%. Because the identified risk factors for HCV seropositivity in this group are identical to those of the general population, it is reasonable to conclude that the true seroprevalence in pregnant women is quite similar to that of the general public, or about 1.8%.

The rate of vertical transmission of HCV has also been estimated with widely varying results. The difficulty of obtaining accurate measurement of vertical transmission risk includes persistence of maternal antibodies in the newborn, failure to identify all infected mothers and loss of infants born to HCV(+) mothers to follow-up. This being said, the best estimate of the prevalence of vertical transmission of HCV is in the range of 5%. Although HCV/HIV co-infection appears to increase the risk of vertical transmission,

Mother-to-Child Transmission of HCV

other risk factors have not been consistently identified. Even the identification of the timing of such transmission between intrauterine versus intrapartum exposure has not been satisfactorily delineated.

Below is a summary of some of the largest studies of vertical transmission of HCV to date:

The Japanese Vertical Transmission of HCV Collaborative study, published in 1994, found a transmission rate of 5.6% in a small sample of 54 infants born to HCV(+) mothers. Transmission appears correlated with viral load.

(1) The following year, the Lombardy Study on Vertical HCV Transmission reported the results from 116 infants born to HCV(+) mothers, 22 of whom were HCV/HIV co-infected. Vertical transmission was not seen in the HCV-only group, while a rate of 36% was seen in the coinfecting group. (2) A Scandinavian study published in 1996 showed no transmission in 55 mothers, including two of whom were HCV/HIV co-infected. (3) A 1997 Italian study reported on a larger sample of 245 infants, with a vertical transmission rate of 3.7%, but higher figures in HCV/HIV co-infection (15%). This group also reported a higher risk in vaginal vs. caesarian delivery. (4) A 1998 Italian study of 75 HCV infected pregnant women revealed a 4.4% vertical transmission rate in HCV-only infection and a more disconcerting 17% transmission rate in HCV/HIV co-infection (5)

The largest study to date is a report published in the journal

Hepatology in 2000 by Conte et al., in which 15,250 consecutive pregnant women were screened for HCV, 370 of whom had evidence of viral infection. Overall vertical transmission rate was 5.1% and was seen exclusively in mothers who had detectable viremia by PCR. Genotype, viral load, vaginal vs. cesarean delivery, breast feeding or HIV co-infection were not associated with transmission. (6)

Based upon these and other studies, the following guidelines and recommendations can be made:

- HCV(+) mothers can transmit infection to their babies. The most accurate estimate of such an event is in the range of 5%. This risk is probably increased in the setting of HCV-HIV co-infection. It is not clear that high viral load increases the risk of transmission.
- The presence of HCV infection does not appear to result in a higher risk pregnancy or a higher incidence of poor obstetric outcome.
- Testing for the presence of HCV in infants born to HCV(+) mothers should not begin until at least one year following delivery. The natural history of HCV infected infants is poorly understood at this time.
- Prophylactic caesarian section is not recommended in HCV infected mothers. The role of cesarean delivery in HCV/HIV co-infected mothers remains controversial.

Steven K. Herrine, MD

Associate Professor of
Medicine

Thomas Jefferson University
Philadelphia, PA

- Breast-feeding presents a low or negligible risk of transmission, and, given the well-documented benefits, should be routinely recommended.

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