

ID Snapshot

Does newborn have neonatal herpes?

by **H. Cody Meissner, M.D., FAAP**

A male infant is delivered vaginally at 37 weeks' gestation to a 23-year-old woman. Antenatal serology indicates the mother is seropositive for antibody to herpes simplex virus (HSV) type 1 and type 2. During birth, a crop of vesicles is noted in the vaginal mucosa. The initial physical examination of the infant is unremarkable.

Which of the following statements regarding neonatal HSV is *not* correct?

- Factors that may influence the risk of HSV transmission from mother to neonate include type of maternal infection (primary or reactivation), maternal HSV antibody status, duration of rupture of membranes, use of fetal scalp electrodes and route of delivery.
- A mother with a primary HSV genital infection at the time of delivery is 10 to 30 times more likely to transmit HSV than a woman with recurrent genital infection at delivery.
- Transmission of HSV from mother to infant may occur in the absence of active genital lesions and in the absence of a maternal history of genital lesions.
- Diagnosis of neonatal HSV generally is accomplished by culture (skin lesions, conjunctivae, mouth or nasopharynx, and rectum) and HSV polymerase chain reaction assay (PCR) of cerebrospinal fluid and blood.
- A positive viral culture from skin or mucous membrane any time within the first 12 hours of birth from a completely asymptomatic infant born to a mother with active vaginal lesions indicates definite neonatal disease.
- For a woman without a clinical history of genital herpes, the presence of vesicles at delivery could indicate a first-episode primary infection (about a 60% risk of transmission to infant), first episode non-primary infection (25% risk of transmission) or recurrent infection (2% risk of transmission).

ANSWER: (e) is not correct.

A positive test for HSV in the first 12 hours of life may reflect only transient maternal contamination that may not lead to neonatal disease. Therefore, specimens for culture and PCR should be obtained at approximately 24 hours after delivery. If the infant remains asymptomatic during the first 24–48 hours of life, acyclovir is not indicated.

In this case, the maternal vesicles observed during delivery indicate reactivation of previous infection because this mother was seropositive for HSV. HSV shedding is highly likely at the time of delivery given



Photo courtesy of CDC

Herpes simplex virus (HSV) shedding is highly likely at the time of delivery given vesicles were noted in the vaginal mucosa of the mother. Still, the infant has only a 2% chance of developing neonatal HSV disease.

the vesicles in the vagina, although this infant has only about a 2% chance of developing neonatal HSV disease.

The risk of HSV transmission is lower with recurrent disease than with primary disease because transplacentally acquired maternal antibody may provide some protection to the infant and because lower amounts of HSV are present in vaginal secretions.

The Centers for Disease Control and Prevention estimates that more than 750,000 people each year acquire a new herpes virus infection. Transmission of HSV among adults most commonly occurs from an infected partner who does not have a visible lesion and may not know that he or she is infected. Most HSV1 and HSV2 infections produce minimal or no symptoms so at least 80% of infected people are not aware they are infected.

Approximately 16% of people between 14 and 49 years have serologic evidence of HSV2 infection. The overall prevalence of genital herpes is likely to be higher than 16% due to the increasing incidence of genital herpes infections caused by HSV1.

Women 18 to 30 years of age who were randomized to the control arm of an HSV vaccine trial between 2003–'07 provide insight into the epidemiology of primary genital herpes infection. Results from the trial show that genital HSV infections were at least three times more likely to be caused by HSV1 than HSV2. HSV1 accounted for 84% of primary genital infections, demonstrating that HSV2 no longer is the most common cause of genital infection in this age group. This change in HSV epidemiology likely is due to increased oral-genital sex practices. In the future, neonatal HSV disease likely will be caused more frequently by HSV1 than HSV2.

“Diagnosis and management of neonatal HSV infections can be quite confusing — not as much as syphilis, but confusing nonetheless,” said David W. Kimberlin, M.D., FAAP, lead author of the AAP clinical report, *Guidelines on Management of Asymptomatic Neonates Born to Women with Active Genital Herpes Infections* (*Pediatrics*. 2013;131:e635-e646) from the AAP Committee on Infectious Diseases and Committee on Fetus and Newborn, with input from the American College of Obstetricians and Gynecologists.

“In the new AAP clinical report, effort was made to simplify the approach to a baby born to a mother with active genital herpetic lesions,” said Dr. Kimberlin, who also is editor of the 2015 AAP *Red Book*.

“The algorithms in the report do not apply to a baby with neonatal HSV disease (such as skin vesicles or HSV-associated hepatitis and encephalitis), but rather to an exposed baby who has not yet developed HSV disease. Hopefully, this new management algorithm will simplify decisions regarding evaluation and management of a baby born to a woman with active herpetic lesions.”



Dr. Meissner is professor of pediatrics at Floating Hospital for Children, Tufts Medical Center. He also is an ex officio member of the AAP Committee on Infectious Diseases and associate editor of the AAP Visual Red Book.