

Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

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TRANSMISSION OF CYTOMEGALOVIRUS FROM MOTHER TO PRETERM INFANT

A study was conducted to assess the epidemiology and kinetics of maternal cytomegalovirus reactivation and the clinical outcome of postnatal transmission to breast-fed preterm infants. Preterm infants (N = 176, gestational age at birth < 32 weeks or birthweight < 1500 g) and their mothers (N = 151) were prospectively screened for cytomegalovirus infection by serology, virus culture, and polymerase chain reaction. The roles of cell-free and cell-associated cytomegalovirus excretion during lactation were analyzed longitudinally in relation to transmission, by maximum-likelihood estimates. Seventy-six (97%) of the 78 mothers who were seropositive for the virus and 69 (95%) of the 73 mothers who were seronegative breast-fed their infants: there were 90 breast-fed babies with seropositive mothers and 80 with seronegative mothers (controls). In the control group, no viral DNA was detected in the breast-milk of the 69 mothers, and none of the 80 infants developed viraemia. However, 73 (96%) of the 76 seropositive mothers had detectable cytomegalovirus DNA in breast-milk at some time during lactation. The transmission group consisted of 27 mothers and their 33 infected preterm infants (cumulative rate of transmission, 37%). Both cytomegalovirus DNA and infectious virus were detectable significantly earlier in the milk whey of transmitters than nontransmitters (median, 3.5 vs 8 days postpartum for DNA; 10 vs 16 days for virus). The researchers concluded that the proportion of cytomegalovirus reactivation during lactation almost equals maternal seroprevalence and that breast-feeding as a source of postnatal cytomegalovirus infection in preterm infants has been underestimated and may be associated with a symptomatic infection.

Hamprecht K, Maschmann J, Vochem M, et al. Epidemiology of transmission of cytomegalovirus from mother to preterm infant by breast-feeding. Lancet 2001;357:513-7.

END-STAGE LIVER DISEASE IN PATIENTS WITH HIV INFECTION

A study was conducted to examine the causes of death of patients who were seropositive for HIV. The researchers retrospectively reviewed the charts of all HIV-seropositive patients who died at their institution in 1991 (group 1), in 1996 (group 2), and during the period May 1998 through April 1999 (group 3), before, in parallel with, and several years after the introduction of highly active antiretroviral therapy (HAART). In group 3, 11 (50%) of 22 deaths were due to end-stage liver disease, compared with 5 (13.9%) of 36 in group 2 and 3 (11.5%) of 26 in group 1. In group 3, 55% of patients had nondetectable plasma HIV RNA levels and/or CD4 cell counts of > 200 cells/mm³

within the year before death. The immunologic profiles of the patients in groups 1 and 2 were consistent with advanced HIV infection. Among all of the groups, most of the patients who were tested had detectable antibodies to hepatitis C virus (HCV), and most had histories of injection drug use as the predominant risk factor for hepatitis B virus, HCV, and HIV infection. In group 3, 7 patients (31.8%) discontinued antiretroviral therapy because of hepatotoxicity, compared with 0 in group 1 and 2 (5.6%) in group 2. The researchers concluded that increased longevity of patients with HIV infection in the era of HAART, along with accelerated rates of progression of HCV-related disease, places these patients at extremely high risk for liver disease and its complications.

Bica I, McGovern B, Dhar R, et al. Increasing mortality due to end-stage liver disease in patients with human immunodeficiency virus infection. Clin Infect Dis 2001;32:492-6.

HAND CLEANSING AND ARTIFICIAL FINGERNAILS WORN BY HEALTH CARE WORKERS

A 2-phase study was conducted to compare the efficacy of antimicrobial soap hand cleansing (measured in the first phase) and alcohol-based gel hand cleansing (measured in the second) on colonization of natural and artificial fingernails. Twenty-one health care workers (HCWs) wearing salon-applied, permanent acrylic artificial nails were compared with 20 HCWs (control subjects) who did not wear artificial nails. Before hand cleansing with the soap, 86% of HCWs wearing artificial nails had a pathogen isolated, compared with 35% of control subjects. A similar difference was noted before hand cleansing with the gel. After hand cleansing with the soap, 17 (81%) of 21 HCWs wearing artificial nails had pathogens remaining compared with 7 (35%) of 20 control HCWs. Alcohol-based gel decreased colonization more than had been noted with the soap (although researchers noted that poor hand-cleansing technique with the soap may have contributed to the apparent superior efficacy of the gel). However, compared with control HCWs, significantly more HCWs with artificial nails still had gram-negative bacilli on their nails. It was concluded that artificial acrylic fingernails could contribute to transmission of pathogens, and their use by HCWs should be discouraged.

McNeil SA, Foster CL, Hedderwick SA, Kauffman CA. Effect of hand cleansing with antimicrobial soap or alcohol-based gel on microbial colonization of artificial fingernails worn by health care workers. Clin Infect Dis 2001;32:367-71.

Dr. Slim is Assistant Professor of Medicine, Seton Hall University, South Orange, NJ, and Infectious Disease Specialist, St. Michael's Medical Center, Newark, NJ. Abstracts written by Lamont Williams, Hospital Physician.

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