

Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

NEW VIBRIO PARAHAEMOLYTICUS STRAIN IN RAW OYSTERS

Vibrio parahaemolyticus infection is usually associated with eating raw or undercooked shellfish, particularly oysters. In 1998, an association was established between a large multistate outbreak of *V. parahaemolyticus* infections in May, June, and July of that year and the consumption of raw oysters from the Galveston Bay area of Texas. These oysters were harvested from approved beds in Galveston Bay, which were in compliance with current shellfish regulations. During a study investigating the factors leading to this outbreak, researchers discovered that stool specimens from affected individuals yielded *V. parahaemolyticus* serotype O3:K6. Before this outbreak, that serotype had not been reported in the United States. The Galveston Bay O3:K6 strain showed distinct but closely related patterns to the Asian O3:K6 strain. It is not known how the O3:K6 strain emerged in Galveston Bay. The article suggested, however, that the emergence of this virulent serotype and elevated seawater temperatures and salinity levels may have contributed to this large multistate outbreak. It further suggested that because bacteriologic monitoring at harvest sites did not prevent this outbreak, current policy and regulations regarding the safety of raw oysters require reevaluation.

Daniels NA, Ray B, Easton A, et al: Emergence of a new Vibrio parahaemolyticus serotype in raw oysters: a prevention quandary. JAMA 2000;284:1541-1545.

PREDICTING MYCOBACTERIUM TUBERCULOSIS IN INPATIENTS

A case-control study was conducted with the objective of deriving a clinical rule to predict the need for respiratory isolation of patients with suspected tuberculosis (TB). To identify potential predictors of the need for isolation, 56 inpatients with sputum cultures positive for TB were retrospectively compared with 56 controls who were isolated on admission to the hospital based on clinically suspected TB but whose sputum cultures tested negative for TB. Variables analyzed included TB risk factors, clinical symptoms, and findings from physical examination and chest radiography. The following factors were significantly associated with a culture positive for TB: presence of TB risk factors or symptoms, a positive purified protein derivative tuberculin test result, high temperature, and upper-lobe disease on chest radiograph. The study concluded that among inpatients with suspected active pulmonary TB, a prediction rule based on clinical and chest radiographic findings accurately identified patients requiring respiratory isolation. It further concluded that among adult patients with suspected active pulmonary TB, those with very low risk of the disease could be discriminated

from those with a higher risk of TB based on data immediately available from the medical history, physical examination, and chest radiograph obtained in the emergency department.

Wisnivesky JP, Kaplan J, Henschke C, et al: Evaluation of clinical parameters to predict Mycobacterium tuberculosis in inpatients. Arch Intern Med 2000;160:2471-2476.

MOTHER-TO-CHILD TRANSMISSION OF HEPATITIS C VIRUS

A study was conducted to examine the effect of risk factors on the vertical transmission rate of hepatitis C virus (HCV). Data from HCV-infected women and their infants (441 mother-child pairs) from 3 hospitals in Ireland and from a British Paediatric Surveillance Unit study were analyzed. The HCV transmission study involved a probabilistic model using methods that simultaneously estimated the time to HCV-antibody loss in uninfected infants and the diagnostic accuracy of polymerase chain reaction (PCR) tests for HCV RNA. Information on the risk factors for mothers, birth and perinatal details, and HCV and HIV serologic and virologic data were collected. Fifty percent of uninfected children became HCV-antibody negative by age 8 months and 95% by age 13 months. The estimated specificity of PCR for HCV RNA was 97% and was unrelated to age. PCR sensitivity was 22% in the first month of life but rose to 97% thereafter. The overall vertical transmission rate was 6.7%. In mothers coinfecting with HIV, the risk of transmitting HCV to their infants was 3.80 times greater than in HIV-negative mothers, after adjustment for other factors. No child was vertically infected with HIV. Breastfeeding status had no significant effect on transmission. Delivery by elective cesarean section before membrane rupture was associated with a lower transmission risk than vaginal or emergency cesarean-section delivery. The study concluded that the low PCR sensitivity in the neonatal period and the observed significant reduction in the risk of transmission for children delivered by elective cesarean section point to a substantial intrapartum transmission of HCV. The study cautioned, however, that the finding of a protective effect of elective cesarean section should be regarded as tentative, because few children were delivered this way in the study. It stated that this finding needs to be confirmed by a meta-analysis of existing data comparing elective cesarean section with other modes of delivery.

Gibb DM, Goodall RL, Dunn DT, et al: Mother-to-child transmission of hepatitis C virus: evidence for preventable peripartum transmission. Lancet 2000;356:904-907.

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