

Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

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DIABETES MELLITUS AMONG PERSONS WITH HEPATITIS C VIRUS INFECTION

Hepatitis C virus (HCV) infection and diabetes have been carefully evaluated in a representative sample of the general population of the United States through the Third National Health and Nutrition Examination Survey (NHANES III). Data obtained by NHANES III were used to test the hypothesis that persons with HCV infection have an increased prevalence of type 2 diabetes. General descriptive analysis was performed to compare participants with and those without diabetes (n = 9841; age > 20 years). The occurrence of type 2 diabetes among persons with HCV infection was further examined by multivariate analysis that included the risk factors for diabetes and those for HCV infection, which were previously determined in the NHANES III population. Among persons 40 years of age or older, those with HCV infection were more than 3 times as likely as those without HCV infection to have type 2 diabetes, after other important risk factors for type 2 diabetes were considered. The study suggested that further investigation is needed to establish the temporal relationship between HCV infection and type 2 diabetes and to assess biological mechanisms.

Mehta SH, Brancati FL, Sulkowski MS, et al: Prevalence of type 2 diabetes mellitus among persons with hepatitis C virus infection in the United States. Ann Intern Med 2000;133:592-599.

ASYMPTOMATIC BACTERIURIA IN YOUNG WOMEN

An investigation using a prospective study design and molecular typing methods was conducted to evaluate the pathogenesis, natural history, and risk factors for asymptomatic bacteriuria and its temporal association with symptomatic urinary tract infection. Seven hundred ninety-six sexually active, non-pregnant women from 18 through 40 years of age from a university student health center (n = 348) and a health maintenance organization (HMO, n = 448) were prospectively evaluated over a period of 6 months for occurrences of asymptomatic bacteriuria. Daily diaries were kept, and regularly scheduled interviews were performed. Midstream urine specimens were collected for aerobic bacterial cultures and evaluated microbiologically. *Escherichia coli* strains were tested for hemolysin, the *papG* genotype, and the ribosomal RNA type. Asymptomatic bacteriuria was defined by the presence of at least 10⁵ colony-forming units of urinary tract pathogens per milliliter in a culture of a midstream urine specimen obtained from an asymptomatic woman on a routine scheduled visit. Statistical analyses were performed to determine the prevalence of and risk factors for asymptomatic bacteriuria. The prevalence of asymptomatic bacteriuria, adjusted

for multiple observations per woman, was 5% in the university group and 6% in the HMO group. Persistent asymptomatic bacteriuria with the same *E. coli* strain was rare. Symptomatic urinary tract infection developed within 1 week after 8% of occasions on which a culture showed asymptomatic bacteriuria, as compared with 1% of occasions when asymptomatic bacteriuria was not found. Asymptomatic bacteriuria was associated with the same risk factors as symptomatic urinary tract infection, particularly the use of a diaphragm plus spermicide and sexual intercourse. Asymptomatic bacteriuria in young women is common but rarely persists. It is a strong predictor of subsequent symptomatic urinary tract infection.

Hooton TM, Scholes D, Stapleton AE, et al: A prospective study of asymptomatic bacteriuria in sexually active young women. N Engl J Med 2000;343:992-997.

CHORIOAMNIONITIS AS A RISK FACTOR FOR CEREBRAL PALSY

A systematic review of the existing literature addressing all forms of chorioamnionitis as a potential risk factor for cerebral palsy or cystic periventricular leukomalacia (cPVL) was performed to determine whether chorioamnionitis is associated with cerebral palsy or cPVL and to examine factors that may explain differences in study results. Of 229 initially identified publications, meta-analyses were performed on studies that addressed the association between clinical (n = 19) or histologic (n = 7) chorioamnionitis and cerebral palsy or cPVL in both preterm and full-term infants. Information from individual studies was abstracted by using standardized forms by 2 independent observers blinded to authors' names, journal titles, and funding sources. By using a random effects model, clinical chorioamnionitis was significantly associated with both cerebral palsy and cPVL in preterm infants. Full-term infants exposed to chorioamnionitis also exhibited an increased risk of cerebral palsy in 2 studies. Factors explaining differences in study results included varying definitions of clinical chorioamnionitis, extent of blinding in determining exposure status, and whether individual studies adjusted for potential confounders. This investigation concluded that chorioamnionitis is a risk factor for both cerebral palsy and cPVL.

Wu YW, Colford JM: Chorioamnionitis as a risk factor for cerebral palsy: a meta-analysis. JAMA 2000;284:1417-1424.

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