

# Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

## DIAGNOSIS OF INFECTIVE ENDOCARDITIS USING POLYMERASE CHAIN REACTION

Investigators compared broad-range polymerase chain reaction (PCR) with standard microbiologic techniques to determine the clinical utility of broad-range PCR in diagnosing infective endocarditis (IE). Data were collected from the medical records of 49 patients who were referred for endocardial surgery and for whom stored specimens were available. Using the modified Duke criteria, 22 patients were classified with definite IE, 13 with possible IE, and 14 with no IE (rejected IE). PCR results were positive in 25 resected specimens for 23 patients; microscopy and culture results were negative in 15 of these specimens (false negatives). Of 39 patients with blood cultures, 22 had at least 1 positive result. PCR results were negative for IE in 3 of the 22 patients (false negatives). Overall, PCR results strongly agreed with blood culture results but were 33% more accurate. For patients with definite or rejected IE, overall sensitivity, specificity, and positive and negative predictive values (PPV, NPV) of PCR were 82.6%, 100%, 100%, and 76.5%, respectively. When the analysis was limited to patients with native valve endocarditis, sensitivity and NPV values of PCR rose to 94.1% and 90%, respectively. When the analysis was limited to patients with prosthetic valve endocarditis, sensitivity and NPV of PCR fell to 50% and 42.9%, respectively. In patients with native valve endocarditis, sensitivity, specificity, PPV, and NPV for cultures of resected specimens were 17.6%, 88.9%, 75%, and 36.4%. The authors propose that broad-range PCR detection of IE pathogens from endocardial specimens be added to the Duke criteria.

*Bosshard PP, Kronenberg A, Zbinden R, et al. Etiologic diagnosis of infective endocarditis by broad-range polymerase chain reaction: a 3-year experience. Clin Infect Dis 2003;37:167-72.*

## NEUROLOGIC MANIFESTATIONS AND OUTCOMES OF WEST NILE VIRUS

The authors performed a community-based prospective case series to describe clinical findings and long-term outcomes of West Nile virus (WNV) patients with neurologic manifestations. Patients were screened for WNV infection in August 2002. Of 39 suspected cases, 16 patients were WNV-seropositive and were classified as follows: West Nile meningitis (WNM),  $n = 5$ ; West Nile encephalitis (WNE),  $n = 8$ ; acute flaccid paralysis (AFP),  $n = 3$ . Fifteen WNV-seropositive patients had dyskinesias. One WNE and 2 WNM patients reported difficulties with balance and gait. Five patients reported weakness, which was focal in the 3 AFP patients. One WNE patient died. At 8 months' follow-up, WNV-seropositive patients reported continuing fatigue ( $n = 10$ ), myalgias ( $n = 3$ ), and headache ( $n = 2$ ). WNM patients did not

have any neurologic deficits, but tremor ( $n = 5$ ) and parkinsonism ( $n = 5$ ) were present in the WNE and AFP patients. Five of 7 patients with severe encephalitis had excellent outcomes. Limb weakness persisted in AFP patients, all of whom required a wheelchair for ambulation. Movement disorders were uncommon in WNV-seronegative patients who had been suspected of having WNV, suggesting that these findings may have diagnostic relevance. Although most patients have good long-term outcomes after WNV infection, others may have an irreversible poliomyelitis-like syndrome.

*Sejvar JJ, Haddad MB, Tierney BC, et al. Neurologic manifestations and outcome of West Nile virus infection. JAMA 2003;290:511-5.*

## PREVALENCE OF TRICHOMONIASIS IN MEN ATTENDING A SEXUALLY TRANSMITTED DISEASES CLINIC

Researchers used a PCR assay to evaluate the prevalence of *Trichomonas vaginalis* infection, particularly in nongonococcal urethritis (NGU), among a series of 300 heterosexual men attending an urban sexually transmitted diseases (STD) clinic. Of the 127 men (42%) infected with at least 1 STD, the prevalence of chlamydia (19.7%), gonorrhea (17.7%), and trichomonas (17%) was similar. Coinfection rates were 13.4% for gonorrhea and chlamydia, 9.4% for gonorrhea and trichomonas, 11% for chlamydia and trichomonas, and 4.7% for all 3 pathogens. Unlike chlamydia, trichomonas prevalence was significantly higher in the asymptomatic versus symptomatic groups (51.4% versus 23%;  $P = .009$ ) when multipathogen infections were not included in the analysis. Chlamydia and gonorrhea were significantly more likely than trichomoniasis to be accompanied by inflammation; trichomonas infection was present in 10.6% of men who lacked evidence of inflammation on urethral Gram stain. Overall, chlamydia was present in 25.2% of men with NGU and trichomonas in 19.9%. No pathogen was detected in 59.6% of men with NGU. Trichomonas may be an important cause of NGU; therapies targeting trichomonas should be considered in treatment of NGU and gonococcal infection.

*Schwabke JR, Hook EW 3rd. High rates of Trichomonas vaginalis among men attending a sexually transmitted diseases clinic: implications for screening and urethritis management. J Infect Dis 2003; 188:465-8.*

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