

# Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

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## PARVOVIRUS B19 INFECTION AND FETAL DEATH

A study was conducted to determine the frequency of parvovirus B19 infection among unselected cases of intrauterine fetal death and to compare the sensitivity of different diagnostic procedures (parvovirus B19-specific polymerase chain reaction [PCR] analysis, histopathology, and immunohistochemistry). Samples of placental and fetal tissues from 47 cases of intrauterine fetal deaths (> 22 gestational weeks), 37 cases of miscarriage of unknown cause (< 22 gestational weeks), and 29 cases of induced abortions were examined. Samples of placental tissues from 53 normal pregnancies at term were also examined. The researchers found that significantly more cases of intrauterine fetal death were positive for parvovirus B19 DNA (n = 7; 15%) than were normal pregnancies at term (0%). Two parvovirus B19-DNA-positive cases were recorded among the miscarriages. There were none among the cases of induced abortion. Only 3 of the 9 DNA-positive cases had parvovirus B19-associated inclusions and stained positive for viral proteins. All but one of the DNA-positive cases of intrauterine fetal death were nonhydropic. The researchers concluded that the presence of parvovirus B19 DNA in cases of late second-trimester and third-trimester fetal death is common, and most are nonhydropic. They further concluded that the sensitivity of conventional diagnostic procedures could be improved by addition of PCR analysis for detection of parvovirus B19 infection in fetal and placental tissues.

*Tolfvenstam T, Papadogiannakis N, Norbeck O, et al. Frequency of human parvovirus B19 infection in intrauterine fetal death. Lancet 2001;357:1494-7.*

## SERRATIA LIQUEFACIENS INFECTIONS FROM CONTAMINATION OF EPOETIN ALFA

A study was performed to investigate the cause of 10 *Serratia liquefaciens* bloodstream infections and 6 pyrogenic reactions that occurred in outpatients of a free-standing hemodialysis center in 1 month. A total of 208 sessions, comprising 48 patients, were analyzed. In 12 sessions, patients had *S. liquefaciens* bloodstream infections, and in 8 sessions, patients had pyrogenic reactions without bloodstream infection. These 20 sessions, involving 15 patients, were associated with doses of epoetin alfa of more than 4000 U and occurred mostly during the afternoon or evening work shifts of the center's staff. A review of the center's procedures showed that preservative-free, single-use vials of epoetin alfa were punctured multiple times, and residual epoetin alfa from multiple vials was pooled and administered to patients. *S. liquefaciens* was isolated from pooled epoetin alfa, empty vials of epoetin alfa, antibacterial soap, and hand lotion. All isolates were identical by pulsed-field gel electrophoresis. No strains of *S. liquefaciens* were isolated from components of the water-

treatment system or water samples. None were isolated from swabs of environmental surfaces or from the hands of staff, and infections continued to occur after the practice of reusing dialyzers was stopped. However, after the center stopped pooling epoetin alfa and replaced the contaminated soap and lotion, no additional *S. liquefaciens* bloodstream infections or pyrogenic reactions occurred. The researchers concluded that puncturing single-use vials multiple times and pooling preservative-free epoetin alfa caused the infections and reactions.

*Grohskopf LA, Roth VR, Feikin DR, et al. Serratia liquefaciens bloodstream infections from contamination of epoetin alfa at a hemodialysis center. N Engl J Med 2001;344:1491-7.*

## GLOBAL TRENDS IN RESISTANCE TO ANTITUBERCULOSIS DRUGS

Between 1996 and 1999, researchers expanded the survey conducted by the World Health Organization and the International Union Against Tuberculosis and Lung Disease to assess trends in resistance to antituberculosis drugs in countries on 6 continents. The target population consisted of all registered patients in the survey area with sputum smear-positive cases of tuberculosis. Newly registered patients with such cases were eligible for inclusion. The researchers obtained data by using standard protocols from ongoing surveillance or from surveys of representative samples of all patients with tuberculosis. Among previously treated cases, there was no evidence of an increase in the prevalence of resistance to at least one drug. In Estonia, the prevalence of multidrug-resistant tuberculosis among previously treated cases increased from 19.2% in 1994 to 37.8% in 1998. Among countries with data available for 3 or more years, there was a statistically significant upward trend in the prevalence of resistance to any drug among new cases in Estonia (from 28.2% in 1994 to 36.9% in 1998) and Denmark (from 9.9% in 1995 to 13.1% in 1998). Of the sites with data available for 2 years, Peru, New Zealand, and Germany had significant increases in the proportions of drug-resistant tuberculosis among new cases, whereas Barcelona (Spain) and Switzerland had significant decreases. The prevalence of multidrug-resistant tuberculosis among all cases in Estonia increased from 11.1% in 1994 to 18.1% in 1998. The researchers concluded that multidrug-resistant tuberculosis continues to be a serious problem, particularly among some countries of eastern Europe.

*Espinal MA, Laszlo A, Simonsen L, et al. Global trends in resistance to antituberculosis drugs. N Engl J Med 2001;344:1294-303.*

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