Incidental Live-Saving Polymerase Chain Reaction in a Case of Prosthetic Valve Dual-Pathogen Endocarditis

To the Editor—An otherwise healthy 44-year-old woman (a resident of a mountainous region of Switzerland) presented to the emergency department with acute onset of fever, myalgia, and disorientation. On physical examination, she was in shock without an evident infectious source. Laboratory analyses revealed leukocytosis (WBC count, 27,000 × 10^9 cells/L) and an elevated C-reactive protein level (260 mg/L). The patient had a history of congenital left ventricular inflow and outflow tract obstruction that was surgically corrected at the age of 15 years. In 1986 and 1996, she had infectious endocarditis of the aortic valve due to Staphylococcus aureus; the aortic valve was replaced by a homograft in 1990.

Transesophageal echocardiography showed vegetations on the aortic valve and possibly also on the mitral valve, with severe aortic and moderate mitral regurgitation. Therapy with vancomycin, gentamicin, and rifampicin was initiated. Blood cultures grew methicillin-sensitive S. aureus, supporting a diagnosis of S. aureus prosthetic valve endocarditis, and treatment was changed to fluoxacillin and rifampicin. The clinical course was complicated by acute renal failure, severe thrombopenia, and multiple septic emboli (in the brain, skin, retina, and spleen). After 4 weeks of antibiotic therapy, the aortic and mitral valves were replaced by mechanical prostheses. Cultures of the aortic valve were sterile, but broad-range eu bacterial PCR had results positive for Coxella burnetii. Serologic results confirmed chronic Q-fever (phase 1 IgG titer, 1:6400; phase 1 IgA titer, 1:200; phase 2 IgG titer, 1:12,800; and phase 2 IgA titer, 1:400); analysis of stored serum samples from the patient revealed that the infection had been acquired in the previous 12 months. Thus, the final diagnosis was chronic Q-fever prosthetic valve endocarditis complicated by acute S. aureus prosthetic valve endocarditis. The postoperative course was uncomplicated. S. aureus prosthetic valve endocarditis was treated for a total of 6 weeks with fluoxacillin and rifampicin. For Q-fever endocarditis, therapy with doxycycline and hydroxychloroquine was introduced and will be continued until the phase 1 IgG titer is <1:400, with a minimum treatment duration of 18 months. At the most recent follow-up visit, 10 months after the initial presentation, the patient was asymptomatic and titers of anti-Coxella antibodies were decreasing (phase 1 IgG titer, 1:3200; phase 1 IgA titer, 1:50; phase 2 IgG titer, 1:6400; phase 2 IgA titer, 1:100).

This case is remarkable for the simultaneous implication of two different bacterial species in the pathogenesis of infective endocarditis, with one of the pathogens being discovered incidentally. Reports in the literature on dual-pathogen endocarditis are scarce; 2 cases with concomitant streptococcal and Q-fever endocarditis have been previously described in a large, prospective French study [1]. Our patient had underlying cardiac abnormalities predisposing her to C. burnetii endocarditis and resided in an area of Switzerland with a seroprevalence of Coxella species infection up to 30% [2]. Nevertheless, C. burnetii infection was not suspected, because all clinical manifestations were compatible with staphylococcal prosthetic valve endocarditis. The diagnosis of Q-fever endocarditis was thus a lucky strike, which is disconcerting given the poor prognosis of unrecognized chronic Coxella infection. In view of our experience, we believe that C. burnetii serologic analysis or PCR testing of heart valve tissue are worth performing in all patients with infective endocarditis who have a preexisting valvulopathy and live in a region in which Q-fever is endemic, regardless of whether another etiological agent has been identified or not.

Acknowledgments

Potential conflicts of interest. All authors: no conflicts.

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Clinical Infectious Diseases 2008;47:144

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DOI: 10.1086/588847

In Patients with Type 2 Diabetes Mellitus, Are Glycosylated Hemoglobin Levels Higher for Those with Helicobacter pylori Infection Than Those without Infection?

To the Editor—In recent years, a significant association has been reported between cardiovascular diseases, diabetes, and dyslipidemia and Helicobacter pylori infection.