Coronary artery disease is an inflammatory condition associated with several infections, including Chlamydia pneumoniae, cytomegalovirus, Helicobacter pylori and other intercellular bacteria (Danesh et al., 1997). Previous studies supported the possibility of certain populations having an association of infections and coronary artery disease Kawasaki disease (KD). KD with characteristic complication of coronary arteries in children has long been considered to have an infectious cause, but no association has been reported with Rickettsia conorii, Rickettsiae typhi, C. burnetii, or Ehrlichia phagocytophilia (Lovey et al., 1999).

Serum IgG and IgM antibodies to the Houston-1 isolate of B. henselae (ATCC 49882) from 14 patients with acute phase of KD were determined by the indirect fluorescence antibody assay (IFA) as described previously (Numazaki et al., 2000). Serum antibody titers greater than 1:64 for IgG and 1:16 for IgM against B. henselae were considered positive. Serum IgG and IgM antibodies to C. burnetii Nine Mile phase II were also tried to detect. Serum antibody titers greater than 1:16 for IgG and IgM against C. burnetii were considered positive.

RESULTS AND DISCUSSION

Fourteen patients with acute phase of KD had serum antibodies neither to B. henselae nor to C. burnetii. I also examined 10 children and 10 pregnant women who had positive serum IgG antibody to B. henselae or to C. burnetii. No one showed abnormal findings of coronary artery.

Although Ender and colleagues (2001) postulated that Bartonella species may play a role in the pathogenesis of coronary artery disease, they did not find a statistically significant association between seropositivity to Bartonella antigens and coronary...
artery disease. Intracellular infection with one of these organisms or with others may still play a role in the development of coronary artery disease. The involvement of several organisms may be additive or synergistic. A complex relationship of several infections that leads to coronary artery disease may make a clear association with a single specific organism more difficult to identify.

Previous studies of Bartonella infection reported less than 5% seropositivity in the general population (Numazaki et al., 2000; Regnery et al., 1992). The rate of Bartonella seropositivity in population of Enders and colleagues (2001) is higher than previous results. Although they used only serological assays, the diagnosis of Bartonella species infection can be established by isolating the agents from clinical specimens. PCR assay for genomes also provides a rapid, sensitive and specific method to diagnose active infection.

On the other hand, the IFA reminds the reference technique for the serological diagnosis of B. henselae or C. burnetii infection. A differential diagnosis is established when antibody titers against both phase I and phase II C. burnetii antigens are determined. Although the positive association of C. burnetii phase 1 antibody detection (a marker of chronic infection) with coronary artery disease was shown (Ender et al., 2001), cross-reactivity of antibodies between C. burnetii and C. pneumoniae should be considered.

Multivariable logic regression analysis revealed no association between seropositivity to B. quintana, B. henselae, or C. burnetii phase I, and II. In a prospective, cross-sectional study, it was unable to detect a significant association between infection with Bartonella species and atherosclerotic coronary artery disease that was diagnosed by coronary angiography (Ender et al., 2001).

In general vascular or coronary arterial infection of B. henselae or C. burnetii is recognized as a rare condition. Since the clinical manifestations of B. henselae or C. burnetii vascular infection are nonspecific, the disease has been recognized only when serology was done systemically. Infectious agents may be one of the nonspecific for the pathogenesis of coronary artery disease associated with KD. Well standardized sensitive and specific tests are definitely needed to further analyze the potential association between B. henselae and C. burnetii infection and KD.

REFERENCES


