

Early structural valve deterioration of bio-prosthetic AV due to Bartonella infection & Q fever

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The diagnosis of Bartonella infective endocarditis(IE) can be a challenge due to its sub-acute course. Also, Bartonella IE can present glomerulonephritis with varying pathologic findings, which makes difficult to differentiated from vasculitis with renal involvement. We report that early structural valve deterioration of bio-prosthetic AV due to Bartonella infection & Q fever in the patient who was taking steroids for C-ANCA associated RPGN. A 69-year-old man came to hospital suffering from fever and lower back pain. About 9 months ago, he underwent aortic valve replacement (AVR) with a bio-prosthetic valve due to severe AS. Also, he was diagnosed with C-ANCA associated RPGN and had been treated with steroids since 2 months ago. On echocardiography, bio-prosthetic AV was thickened(Fig A,B), and oscillating material attached to it(Fig C,D). On the day before redo-AVR surgery, he developed chest pain. Electrocardiogram and coronary angiography revealed that the mid-portion of RCA was totally occluded by thrombus(Fig E, F). Despite of aspiration, balloon dilatation, and intracoronary abciximab infusion, RCA total occlusion was still noted on following CAG, so he underwent redo-AVR with prosthetic AV accompanying CABG surgery. The etiology of early structural valve deterioration of bio-prosthetic aortic AV was confusing. All leaflets of bio-prosthetic AV were significantly calcified and had limited motion, but did not show inflammation sign-on surgical fields(Fig G,H). No microorganism was detected in blood cultures and surgical specimens. Autoimmune antibodies were all negative. On the 7th day of redo-AVR, Bartonella Quintana was identified on 16S rDNA gene sequencing from surgical specimens. The serology of Q fever was also positive showing phase II IgG 1:512 and IgM 1:32. Finally, he was diagnosed with Bartonella infection accompanying acute Q fever. During the six-week period of treatment, doxycycline with gentamicin for two weeks, followed by selective antibiotics with doxycycline alone, the infection was controlled. It is necessary to evaluate rare organisms like Bartonella, Q fever in the immunocompromised background with early structural valve deterioration.

