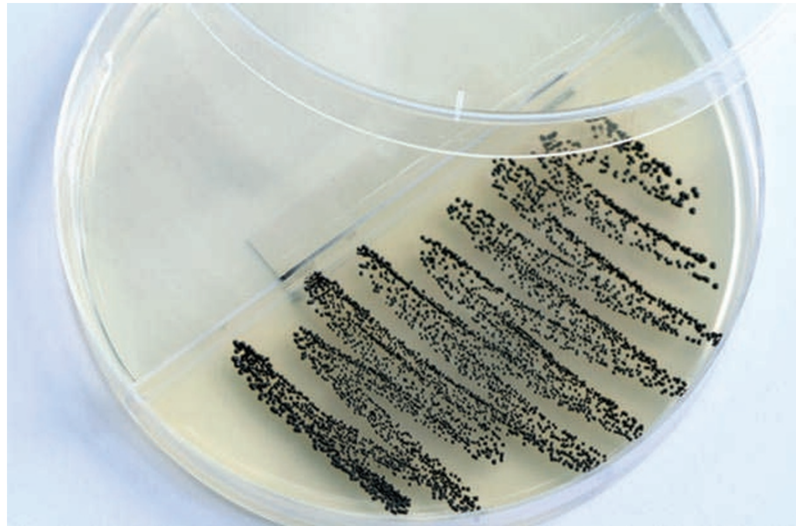
INFECTION

Infections related to outpatient health care cause native endocarditis

Infective endocarditis of the native heart valves was once considered to be a disease caused predominantly by community-acquired bacterial infection. A report by the investigators of the International Collaboration on Endocarditis Prospective Cohort Study challenges this concept by demonstrating that native endocarditis was caused by infection related to health care in 34% of 1,622 patients in an international registry. Furthermore, the study reveals that bacteremia is frequently the result of outpatient medical treatment (non-nosocomial infection) and that the characteristics of native endocarditis in these individuals are similar to those in patients who develop infection during inpatient care (nosocomial infection). Notably, the proportion of health-care-related infections, particularly those of non-nosocomial origin, was much higher in the US than in other countries.



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Patients receiving long-term immunosuppressive treatment, and those with cancer or diabetes, were more likely to have health-care-related endocarditis, particularly as a result of non-nosocomial infection. Most patients in all categories had mitral valve endocarditis. Patients with community-acquired infection had a higher incidence of aortic valve endocarditis and a lower incidence of tricuspid valve involvement than patients with infection related to health care. Infection with *Staphylococcus aureus*, particularly the methicillin-resistant strain (MRSA), was significantly more common among patients with health-care-related endocarditis, whereas community-acquired infection was more likely to be caused by streptococcal bacteria.

The prognosis of patients with infection related to health care was worse—with higher in-hospital mortality and more persistent infection—than those with community-acquired infection. Multivariate analysis showed that health-care-related infection was one of the strongest predictors of mortality among patients with native endocarditis. Although there was a slightly higher incidence of heart failure among patients with nosocomial infection compared with non-nosocomial infection, outcomes were generally similar for the two different types of health-care-related endocarditis.

The findings from this investigation highlight the effects of changes in the structure of health-care systems on the incidence and causes of endocarditis. The growing importance of outpatient medical interventions—including chemotherapy, hemodialysis, wound care, and nursing care in the patient's home or in a long-term care facility—indicates that non-nosocomial infection is likely to become an increasingly prevalent global cause of native endocarditis as these transitions in health care extend from the US to other countries.

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Original article Benito, N. *et al.* for the ICE-PCS (International Collaboration on Endocarditis Prospective Cohort Study) Investigators. Health careñassociated native valve endocarditis: importance of non-nosocomial acquisition. *Ann. Intern. Med.* **150**, 586–594 (2009).

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