

A case of infective endocarditis caused by *Bartonella quintana*: prolonged mild symptoms and a sudden life-threatening complication

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Summary

The morbidity and mortality associated with infective endocarditis can be significantly reduced by early diagnosis and initiation of effective therapy. Due to the often nonspecific prosaic symptoms associated with infective endocarditis, patients are likely to seek initial medical care from their primary care physicians. The authors present the history of a patient suffering from indolent prolonged illness with moderate fever who developed painless macrohematuria and triple valve endocarditis with *Bartonella quintana*. This pathogen is a gram-negative bacterium responsible for the epidemic louse-borne trench-fever seen in Europe during World War I and particularly seen as an infectious agent in HIV patients.

Key words: endocarditis; *Bartonella*; multiple valve involvement; coronary occlusion; Surgery

Introduction

The presentation of infective endocarditis ranges from a syndrome characterized by marked systemic toxicity and rapid progression with intracardiac and extracardiac complications to an indolent prolonged illness with modest fever and toxicity, and, in some instances, scant evidence of infection or cardiac disease on examination. Additional important clues to the presence of infective endocarditis include bacteremia with organisms that commonly cause infective endocarditis or an embolic event that is not attributable to an apparent underlying illness.

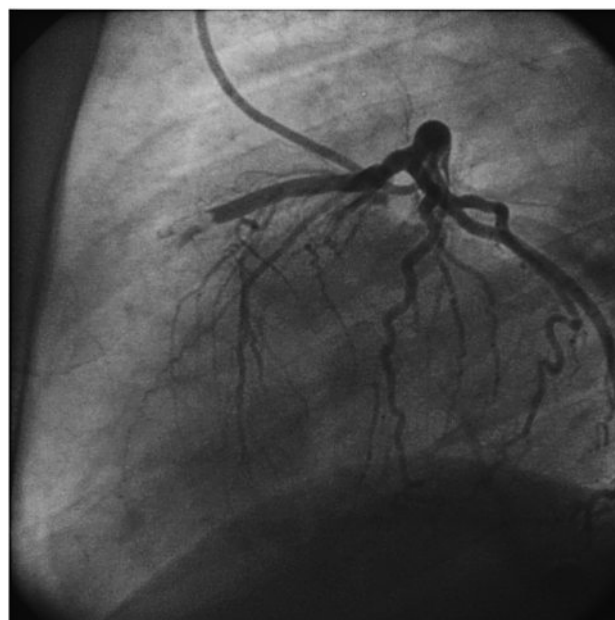
Nevertheless, in case of suspected infective endocarditis, all efforts should be made to allow early diagnosis and proper treatment, including extensive laboratory work, refined antibiotic treatment and surgical management. Otherwise, this disease may still be associated with a poor prognosis [1]. Endocarditis as the “chamaeleon of diseases” is once more highlighted in the following brief case report.

Case report

A 61 year-old man was referred to the emergency department with painless macrohematuria. History revealed a weight loss of 15 kg in the last three months and some episodes of modest febrile condition. The patient was suspected of alcohol abuse. At examination the patient had a subfebrile temperature and was in a reduced condition. He complained of dyspnea NYHA functional class II-III. A clinical examination revealed hepato- and splenomegaly as well as ankle edema. Additional work showed esophageal varicosis I° with hypertensive gastropathy, liver cirrhosis with ascites, and hemorrhagic cystitis and rectitis. No vascular or immunological phenomenon, such as arterial emboli, glomerulonephritis or Osler's nodes, were present. Lab examination showed only moderate elevation of CRP (40 mg/l) and leucocytes to 9500/mm³; in particular procalcitonin was normal. All sero-

Figure 1

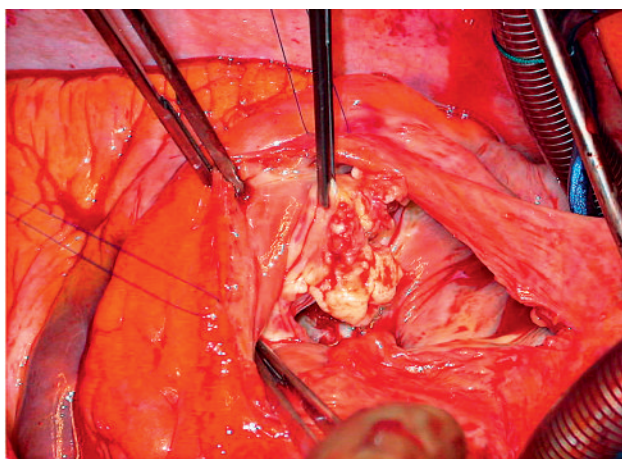
Occlusion of the LAD by septic emboli.



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Figure 2

Tricuspid valve with endocarditic vegetations.



logic tests including hepatitis and HIV were negative. Several days after admission and because no proper diagnosis was made, echocardiography was performed although there was no heart murmur. Surprisingly, this examination showed large (up to 2 cm) and mobile vegetations on the aortic valve as well as on the mitral and tricuspid valve. Blood cultures were negative at this time and antibiotic treatment with amoxicillin/clavulanic acid and gentamicin was started. Two days later the patient had an episode of acute chest pain with ST-segment elevation. Coronary angiography demonstrated embolic occlusion of the left anterior descending branch (fig. 1). An attempt to proceed with aspiration of the embolus was not successful.

After hemodynamic stabilization, surgery was performed. The three valves had mobile and pedunculated vegetations (fig. 2: tricuspid valve involvement) but perivalvular extension of the infection was not observed. The valves were resected and replaced by mechanical prostheses in the aortic and mitral positions, and by a biological prosthesis for the tricuspid valve. In addition the left internal thoracic artery was grafted to the LAD distal to the embolic occlusion. On the first postoperative day, the patient developed a hyperdynamic condition with low peripheral vascular resistance and anuria: this was highly suggestive of sepsis, most probably caused by surgical removal of the vegetations. A high-dose of norepinephrine was started and continuous venous hemofiltration was necessary, followed by hemodialysis a few days later. During the following days, the patient recovered well and the hemodynamic situation improved. A microbiological examination of the excised valve material revealed *Bartonella quintana* as the pathogen for the infective endocarditis. Treatment consisted of a two-week's course of gentamicin combined with amoxicillin and a third generation cephalosporine for eight weeks.

The patient was still oliguric on discharge at postoperative day 30. Recently, a one-year follow-up was performed. Echocardiography showed normal functioning heart valves prostheses; renal function had improved and haemodialysis could be discontinued.

Discussion

The mortality rates for various forms of infective endocarditis continues to range from 10% to 50% in spite

of treatment with increasingly potent antimicrobial regimens. Although mortality relates at least in part to the increased age and underlying diseases of patients with infective endocarditis, intracardiac and central nervous system complications are significant additional causes of death.

Since the main symptoms at referral were painless macrohematuria, weight loss and subfebrile temperature, differential diagnosis included not only malignant disease but also subacute infection with specific pathogens, such as tuberculosis and schistosomiasis. The patient also presented with ascites and modest anaemia which might have resulted from liver congestion due to right heart failure or to cirrhosis. Interestingly, the patient did not have any heart murmur. Echocardiography was performed "ex juvantibus" but from the clinical perspective, there was no reason to do so, except that modest fever is one of the most frequent signs of subacute endocarditis.

Bartonella quintana is considered an opportunistic pathogen in immune-compromised hosts, particularly HIV-infected subjects. The patient presented here had no evidence of immunosuppression but excessive alcohol consumption may have been a predisposing factor. *Bartonella quintana* is a gram-negative bacterium responsible for the epidemic louse-borne trench-fever seen in Europe during World War I [2]. This germ re-emerged as a pathogen decades later when it was recognized as a cause of bacteremia, endocarditis and chronic lymphadenopathy in HIV-positive patients. It is rarely seen as an infectious agent in HIV-negative patients [3]. In the last years, however, there have been several reports of bacteremia caused by *B. quintana* in homeless people and patients with chronic alcoholism [4, 5]. The current patient was HIV negative but malnutrition due to alcoholism may have boosted the development of infective endocarditis. This case demonstrated once more the difficulty of early diagnosis of infective endocarditis in certain cases, although three valves were involved. Surgical treatment was unproblematic and recovery uneventful but was prolonged by the necessity of intravenous antibiotic treatment and permanent haemodialysis during nine months.

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