E. Castellanos Martínez, M. Telenti Asensio, V. M. Rodríguez Blanco, M. L. Rodríguez Suárez, A. Moreno Torrico, A. Cortina Llosa

Infected Endocarditis of an Interventricular Patch Caused by Acinetobacter haemolyticus

Summary: A case of infective endocarditis caused by Acinetobacter haemolyticus affecting an interventricular patch is reported. The patient, a 21-year-old man with a Fallot's tetralogy who had undergone cardiovascular surgery several years before, received imipenem and gentamicin for 6 and 4 weeks respectively and showed a good response without needing surgical treatment. Endocarditis by Acinetobacter species is very unusual and, to our knowledge, this is the first reported case of infective endocarditis caused by A. haemolyticus. As the clinical characteristics and the response to antibiotics appear to be similar to those reported for infective endocarditis by Acinetobacter Iwoffi, prosthetic infective endocarditis by A. haemolyticus is apparently not always an indication for surgical treatment.

Introduction

Infection of intravascular prosthetic material is a very serious disease that usually requires surgical removal of the prosthesis. We describe a patient with patch endocarditis caused by Acinetobacter haemolyticus successfully treated only with antimicrobial agents without surgery.

Case Report

A 21-year-old Caucasian male with a six-month history of undiagnosed fever that was intermittent, low grade, with occasional chills and diaphoresis, was admitted to the hospital. At 17 years of age he had undergone a total surgical correction for Fallot’s tetralogy, but required reoperation for patch dehiscence 1 year later. He denied any history of intravenous drug abuse and during the period preceding the onset of fever had not received any form of dental treatment.

On admission, the patient appeared healthy, without fever on physical examination. No splenomegaly or other stigmata of infective endocarditis were evident. Dental examination revealed caries of two molars. Cardiovascular examination revealed a palpable right ventricle impulse, a grade II/VI ejection systolic murmur, and an early diastolic murmur of pulmonary regurgitation at the left sternal border. Haemoglobin was 11.8 g/dl, white cell count 14,900/mm³ with 82% neutrophils and the erythrocyte sedimentation rate was 55 mm/h. Glucose, electrolytes, urea nitrogen, and creatinine values were normal. Chest X-ray suggested a cardiomegaly with dilation of the right ventricle and pulmonary artery. The electrocardiogram showed a normal sinus rhythm and a right bundle branch block with right ventricle enlargement. The patient presented fever on the first days of hospitalization and blood cultures were obtained. Transthoracic and transesophageal echocardiography revealed a hypertrophic and enlarged right ventricle, and an early diastolic murmur of pulmonary regurgitation. The patient remained without fever and continued to be free of signs and symptoms of infection.

Discussion

Acinetobacter species have emerged as opportunistic pathogens causing a wide variety of infections of a nosocomial origin [2-4]. They are widely distributed in the environment, and have been recovered from human skin, upper respiratory and genitourinary tracts [5]. Until recently, clinical laboratories had recognized four biovars, “Acinetobacter antratus” (glucose positive), “A. haemolyticus” (hemolytic “A. antratus”), “A. Iwoffi” (glucose negative) and “Acinetobacter alcaligenes” (hemolytic and gelatin positive “A. Iwoffi”) [6]. Recently, Bouvet and Grimont [7] redefined the genus Acinetobacter by identifying Acinetobacter baumannii, Acinetobacter calcoaceticus, A. haemolyticus, Acinetobacter johnsonii, Acinetobacter junii, A. Iwoffi, and six other unnamed genospecies by

Received: 26 September 1994/Revision accepted: 25 May 1995
E. Castellanos Martínez, M. D., V. M. Rodríguez Blanco, M. D., M. L. Rodríguez Suárez, M. D., Prof. Cortina Llosa, Dept. of Cardiology, M. Telenti Asensio, M. D., Dr. Ph. D., A. Moreno Torrico, M. D., Dept. of Infectious Diseases and Clinical Microbiology, Hospital Central de Asturias, Oviedo, Spain.

Correspondence to: E. Castellanos Martínez, M.D., Servicio de Cardiología, Hospital Central de Asturias, C/Julián Clavería s/n, E-33006 Oviedo, Spain.
DNA-DNA hybridization. Most hemolytic acinetobacters are now A. haemolyticus, and a few are included in genus species 6. Due to these taxonomic problems, it is difficult to know the pathogenic role of the different Acinetobacter species. Considerable differences have been shown in antimicrobial drug susceptibility between the different species [8,9] and these show that certain species, such as A. haemolyticus, are generally much more susceptible than A. baumannii. In a study by Troub et al. [8], A. haemolyticus isolates were susceptible to gentamicin and resistant to amikacin and tobramycin, and similar results have been obtained in other studies [9].

According to the literature, at least 20 cases of Acinetobacter endocarditis have been reported [10, 11], and these include native and prosthetic valve endocarditis. The disease appears to be less aggressive in patients with prosthetic heart valves (mortality 16.7%) than in those with native valves (mortality 35.7%), who did not undergo surgical intervention. Interestingly, four of the six cases reviewed with prosthetic endocarditis were caused by A. lwoffii.

Infective endocarditis in patients who undergo correction for Fallot’s tetralogy is unusual, reaching an incidence of 6.2% [12, 13]. Bacterial endocarditis involving the intraventricular patch after surgical repair of Fallot’s tetralogy has been reported in a few cases, with fatal consequences when it occurred in the early period [14–17]. To our knowledge, this is the first reported case of infective endocarditis due to A. haemolyticus. The clinical manifestation and the good response to antibiotic therapy appear similar to those described for A. lwoffii. In the present case, it is difficult to explain the origin, but it is evident that it cannot be nosocomial because of the long period between reoperation and the beginning of symptoms. The patient suffered from dental caries that could have been responsible for the infection. In conclusion, this case has shown that infective endocarditis by A. haemolyticus has a good prognosis with intensive antibiotic therapy without the need for surgical intervention.

Acknowledgements

We wish to thank David H. Wallace, M. Sc., and Dr. Gosalvez for their corrections of the English.