Successful medical management of prosthetic-valve endocarditis complicated by perivalvular abscess

Tratamento clínico de endocardite em prótese valvar complicada por abscesso para-protético

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Abstract
We present a case of a 44-year-old man with prosthetic aortic endocarditis complicated by a perivalvular abscess that was spontaneously drained into the left ventricular chamber. He had a history of rheumatic fever and had previously been submitted to three valve replacements because of biological prosthesis dysfunction and infective endocarditis. We briefly discuss the main features of paravalvular abscess complicating infective endocarditis.

Descriptors: Endocarditis. Heart valve prosthesis. Cardiac surgical procedures.

INTRODUCTION
We present a case of a 44-year-old man with prosthetic aortic endocarditis complicated by a perivalvular abscess that was spontaneously drained into the left ventricular chamber. He had a history of rheumatic fever and had previously been submitted to 3 valve replacements because of biological prosthesis dysfunction and infective endocarditis. We briefly discuss the main features of paravalvular abscess complicating infective endocarditis.

Myocardial abscess formation is a severe complication of infective endocarditis (IE) that is associated with high mortality. The aortic valve and its adjacent ring are more susceptible to abscess formation and complications of paravalvular extension of the infection than the mitral one. Prosthetic-valve endocarditis (PVE) is also more frequently associated with these types of complications than the native valves [1,2].

We report a case of prosthetic aortic endocarditis complicated by paravalvular extension of the infection with an abscess formation that was spontaneously drained into the left ventricular chamber.

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Article received on March 17th, 2009
Article accepted on June 29th, 2009
The patient was discharged from the hospital taking penicillin G benzathine (1.2 million units every 28 days) and erythromycin (2 g/daily), and was followed up closely.

**DISCUSSION**

Periannular extension of the infection in IE is a serious and relatively common complication, which is associated
with high mortality rate [3]. It appears to be caused by bacterial invasion and destruction of the local tissue, and usually leads to abscess formation. Abscess-related lesions are more frequent when the infecting organism is Staphylococcus aureus. Periannular lesions occasionally rupture into the adjacent cardiac chambers causing aortocavitary fistulae, and hemodynamic instability. Echocardiography, particularly the TEE, is of utmost value in the diagnosis and evaluation of such lesions [3,4]. Patients with periannular complications of IE constitute a well-defined group of individuals in whom surgery is necessary, and there is a wide range of possible surgical procedures to treat them [5].

Early surgical intervention is warranted when there is echocardiographic evidence of paravalvular abscess [5]. Surgeons have long focused on treating IE and its major complication, i.e. the abscesses, especially those located in the aortic ring, using different surgical alternatives [6]. Our patient underwent careful surgical exploration of the mitral and aortic prostheses, and intervalvular fibrosa area. During the surgical procedure, a cavity that communicates with the outflow tract of left ventricle was found. It was located at the same site of the TEE abscess imaging, which suggested spontaneous drainage of the abscess with aneurysm formation. As surgical inspection disclosed neither instability nor dysfunction of the prostheses, the surgical team decided not to perform a new valve replacement because of the high risky of such procedure in the present case.

The appropriate operative procedures for treating IE are still controversial. Although the outcome was greatly improved with ample resection of the infected tissue and laborious reconstructions [6,7], the good evolution of our patient was probably due to the spontaneous drainage of the abscess. It is important to emphasize that clinical approach does not represent an alternative to surgery when it is feasible, but is merely the best opportunity for patients too ill to tolerate a re-intervention [8].

A misinterpretation of the echocardiographic imaging could have been an explanation for the favorable outcome of our patient; however, the evolution of such imaging in the repeated examinations along with the surgical findings led us to conclude that it was an abscess which evolved into an aneurism.

In synthesis, we present an uncommon case of paravalvular abscess complicating PVE that respond to a combined course of intravenous and oral antibiotics administrated for a long period of time, and experienced clinical and echocardiographic resolution of the infection.

REFERENCES


