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Cardiac device infection: to extract or not to extract, that is the question

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Introduction: The incidence of infectious complications related to intracardiac devices has been increasing in recent year and is associated with a poor prognosis, which is determined not only by the infectious process but also by the severity of the underlying cardiac pathology and the spectrum of comorbidities presented. Appropriate antibiotic therapy and extraction of the devices are fundamental in the management of these patients.

Case report: We describe the case of a 66-year-old patient on a waiting list for transplantation due to non-ischemic dilated cardiomyopathy with poor left ventricular systolic function (LVEF of 10%), with severe functional mitral regurgitation and severe pulmonary hypertension, who received a CRT-D for secondary prevention (non-responder). He was admitted for decompensated heart failure (NYHA functional class IV and "dry-cold" profile) requiring inotropic support becoming dependent on dobutamine. During hospitalization, there was a progressive increase in inflammatory markers accompanied by recurrent febrile peak and inflammatory signs of the central venous catheter, with catheter-tip and serial hemocultures positive for *Morganella morganii*. Piperacillin / tazobactam was started. Due to the lack of response to pathogen directed antibiotic therapy, he underwent a transesophageal echocardiogram (TEE) that revealed several filiform images associated with the electrodes, with no image of valvular vegetations, which led to the association of gentamicin and device extraction (DE), according to the Pisa technique, that occurred without complications. On the 7th day after DE, there was a progressive clinical deterioration in spite of increasing doses of inotropes and vasopressors. It was considered that patient would not be candidate for cardiac transplantation or mechanical ventricular assist, and died on the 118th day of hospitalization in refractory cardiogenic shock.

Conclusion: Device endocarditis is a class I indication for intracardiac DE and TEE is fundamental in its diagnosis. Despite being a considered a non-responder to cardiac resynchronization therapy based on clinical and echocardiographic criteria, this case illustrates how the loss of cardiac resynchronization may have contributed to the patient's hemodynamic deterioration and have played a fundamental role in the clinical outcome.