



IMAGE IN CARDIOLOGY

## Externalized biventricular implantable cardioverter-defibrillator



## Cardioversor-desfibrilhador com ressincronização cardíaca externa

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A 52-year-old man presented to the emergency department with externalization of a biventricular implantable cardioverter defibrillator (Figure 1). He had been admitted six months earlier with a fistula surrounding the device but left the hospital against medical advice before treatment. At admission to the emergency room his heart rate was 105 beats/min and his blood pressure was 122/96 mmHg. Cardiac auscultation revealed a systolic murmur at the apex; there were no breath sounds at the right lung base and lower limb edema was observed.

Three sets of blood cultures were drawn before antimicrobial therapy with vancomycin was begun. Methicillin-resistant *Staphylococcus aureus* was subsequently isolated. Transthoracic and transesophageal echocardiography were performed and a mass was seen adhering to the lead (Figures 2 and 3). Complete device and lead removal was performed within two days. The patient received parenteral antimicrobial therapy for four weeks and a new device was implanted on the contralateral side before discharge.

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**Figure 1** Externalization of biventricular implantable cardioverter-defibrillator.



**Figure 2** Transthoracic echocardiogram, apical 4-chamber view, showing thickening of the lead.



**Figure 3** Transesophageal echocardiogram, showing a mass adhering to the lead.

### Ethical disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data.

**Right to privacy and informed consent.** The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

### Conflicts of interest

The authors have no conflicts of interest to declare.