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From Rhythm to Rupture: A Case of Double Left Ventricular Perforation

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Title:

From Rhythm to Rupture: A Case of Double Left Ventricular Perforation

Do ritmo à rotura: Um caso de dupla perfuração do ventrículo esquerdo

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An 89-year-old man presented to the emergency department after recurrent syncopal episodes. Electrocardiographic monitoring yielded complete heart block with periods of ventricular asystole. A temporary transvenous pacemaker was inserted through the right femoral vein under fluoroscopic guidance. Following insertion, the patient reported severe chest pain, and undersensing with electrical capture failure was noted. Transthoracic echocardiography (TTE) revealed a *de novo* 12 mm circumferential pericardial effusion without tamponade (Figure 1). Cardiac computed tomography subsequently identified a sequential cardiac perforation: the pacemaker lead penetrated the mid interventricular septum, then perforated the lateral left ventricular wall into the pericardial space (Figure 2). Due to the urgent need for device removal, anticoagulation was withheld. In the operating room, the electrode was successfully extracted by traction under TTE guidance. Although no additional pericardial effusion was seen post-removal, prophylactic pericardiocentesis was performed. The procedure was immediately complicated by an embolic ischemic stroke of the left anterior cerebral artery. Criteria for endovascular intervention were not met. He remained two weeks in the intensive care unit and was discharged one month after initial admission with left hemiparesis. This

case highlights the potential for severe complications with temporary pacemaker insertion and underscores the need for vigilant monitoring post-implantation.

#### Ethics in publishing

1. Does your research involve experimentation on animals?:

No

2. Does your study include human subjects?:

Yes

If yes; please provide name of the ethical committee approving these experiments and the

registration number. :

This case study was written for educational purposes rather than research, and the data were collected as part of routine care. All procedures were conducted in accordance with approved ethical standards. It was determined that permission could be granted by the hospital and patient, rather than through an Ethics Committee review.

If yes; please confirm authors compliance with all relevant ethical regulations. :

Yes

If yes; please confirm that written consent has been obtained from all patients. :

Yes

3. Does your study include a clinical trial?:

No

4. Are all data shown in the figures and tables also shown in the text of the Results section and

discussed in the Conclusions?:

Yes

