

Image in cardiology

Left-sided intracavitary thrombi in candidates for temporary mechanical circulatory support



Trombos intracavitarios izquierdos y asistencia circulatoria mecánica temporal

María de Miguel Álava,^{a,b,*} María Plaza Martín,^{a,b} and Alexander Stepanenko^{b,c}^aInstituto de Ciencias del Corazón (ICICOR), Valladolid, Spain^bDepartamento de Cardiología, Hospital Clínico Universitario de Valladolid, Valladolid, Spain^cCentro de Investigación Biomédica en Red de Enfermedades Cardiovasculares (CIBERCV), Spain

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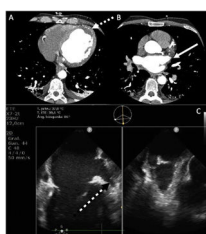


Figure 1.

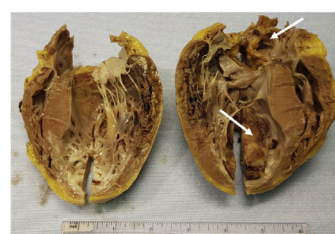


Figure 2.

Left-sided intracavitary thrombi may be a contraindication for temporary mechanical circulatory support (tMCS).

We present the case of a 56-year-old man with Killip class IV anterior myocardial infarction. On admission, he had a large thrombus in the infarcted area (figure 1A, dotted white arrow) and another in the left atrial appendage (LAA) (figure 1B, white arrow). He was added to the elective heart transplant list and placed on inotropic and intra-aortic balloon pump support due to the high risk of embolism associated with single-ventricle tMCS. His initial progress was unfavorable, and it was decided to implant a CentriMag left ventricular assist device (LVAD) (Abbott, United States) with cannulation of the left atrium. The thrombus in the LAA disappeared after 2 weeks of anticoagulation with enoxaparin (figure 1C, black and white dotted arrow). The patient underwent a heart transplant 24 hours later with an uneventful postoperative course.

Single LV thrombi are not an absolute contraindication for surgical tMCS if intraoperative thrombectomy or LA cannulation is performed. The combined presence of thrombi in the LA and LV, however, confers a high risk of intra- and postprocedural embolism.

In the present case, disappearance of the thrombus in the LAA enabled CentriMag LVAD implantation with LA cannulation. If circulatory support is required before thrombus resolution, use of an Impella venoarterial extracorporeal membrane oxygenation (ECMO) pump (Abiomed, United States) may be considered if the thrombus has invaded the wall or if either of the left cavities is surgically cannulated following thrombectomy.

Gross examination of the explanted heart showed an organized thrombus in the anterior septum and confirmed the absence of the thrombus in the LAA (figure 2).

More studies are urgently needed to determine the most appropriate tMCS strategy for patients with intracavitary thrombi. Informed consent was obtained for the publication of this case.

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AUTHORS' CONTRIBUTIONS

M. de Miguel designed and conceived the paper. A. Stepanenko revised it thoroughly and produced a modified, final version. M. Plaza Martín contributed to the search for information and images and revised the final version of the manuscript.

CONFLICTS OF INTEREST

None.

* Corresponding author.

E-mail address: mdemiguelalava@gmail.com (M. de Miguel Álava).

@mariademiguel_@icicor_es

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