



## IMAGES IN INTENSIVE MEDICINE

### Ghost cannula after ECMO removal

### Cánula fantasma tras retirada de ECMO



J. Martínez-Solano<sup>a,b,\*</sup>, I. Sousa-Casasnovas<sup>a,b</sup>, M.Á. Espinosa<sup>a,b</sup>

<sup>a</sup> Servicio de Cardiología, Instituto de Investigación, Hospital General Universitario Gregorio Marañón, Madrid, Spain

<sup>b</sup> CIBERCV, Instituto de Salud Carlos III, Madrid, Spain

Available online 8 September 2022

This is the case of a 59-year-old man admitted due to bilateral pulmonary thromboembolism in the deep shock and refractory hypoxemia setting. Veno-arterial extracorporeal membrane oxygenation (ECMO) under emergency intubation was implanted. Although the right ventricular

function improved, the patient required bailout percutaneous thrombectomy followed by an efferent cannula via right jugular access to improve oxygenation. While on venous-arteriovenous ECMO, a few centimeters of the femoral cannula were removed towards the inferior vena

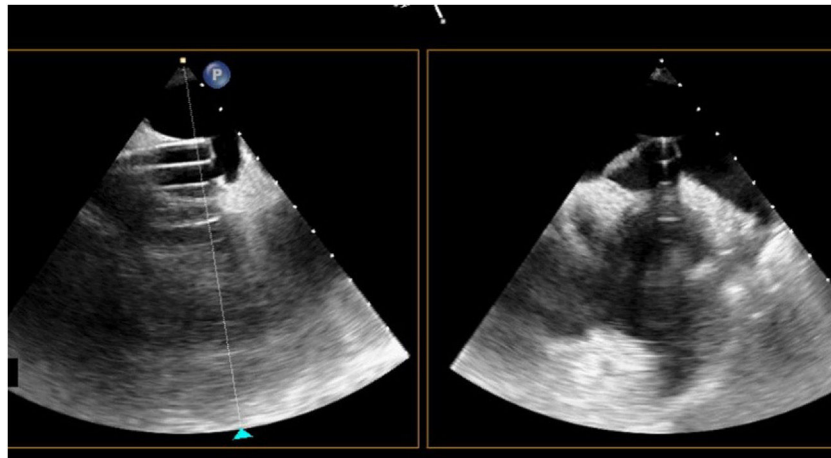


Figure 1

\* Corresponding author.

E-mail address: [jorge92ms@gmail.com](mailto:jorge92ms@gmail.com) (J. Martínez-Solano).

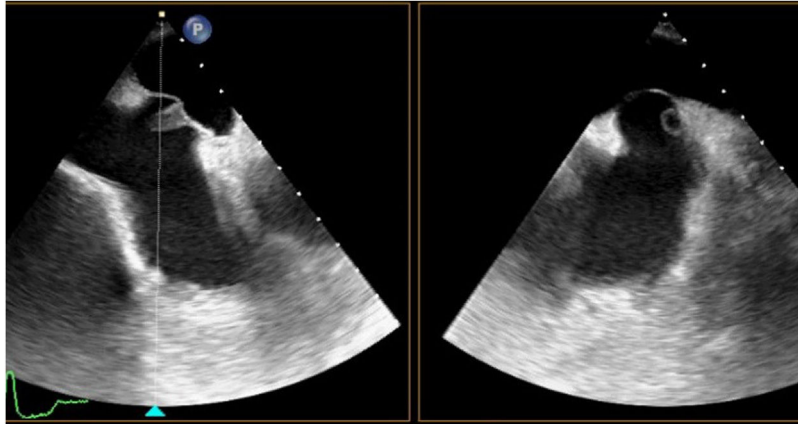


Figure 2

cava to prevent recirculation. Fig. 1 (and video 1 too) show the suction cannula on a transesophageal ultrasound with a persistent isoechogenic cylindrical image attached to the interatrial septum after its removal (Fig. 2; video 2). While on systemic anticoagulation, the control ultrasound performed 13 days later confirmed that the image was gone and it was interpreted as a fibrin mold. Fibrin sheaths are structures made of smooth muscle cells, detritus, extracellular matrix, and thrombotic material. They are created around a foreign body and persist after its removal. They have been described as associated with endovascular material like pacemakers, catheters, ECMO cannulae or the Impella device. This phenomenon is important since a substrate for thromboembolic events or endocarditic vegetation is possible.

### Funding

None whatsoever.

### Conflicts of interest

None reported.

### Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.medine.2022.07.013>.