

## IMAGE IN CARDIOLOGY

# Embolization of a Biostar device in the pulmonary artery

## Embolização duma prótese Biostar na artéria pulmonar

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An asymptomatic 50-year-old Caucasian woman was referred to our echocardiography laboratory to monitor a Biostar septal occluder device inserted six months before in order to close a patent foramen ovale.

On transthoracic echocardiography no residual shunt was observed but the device was not identifiable (Figure 1A); after injection of agitated saline solution in a vein of the right arm and the Valsalva maneuver, a remarkable paradoxical right-to-left shunt appeared (Figure 1B, video clip 1). The estimated systolic artery pressure was 25 mmHg.

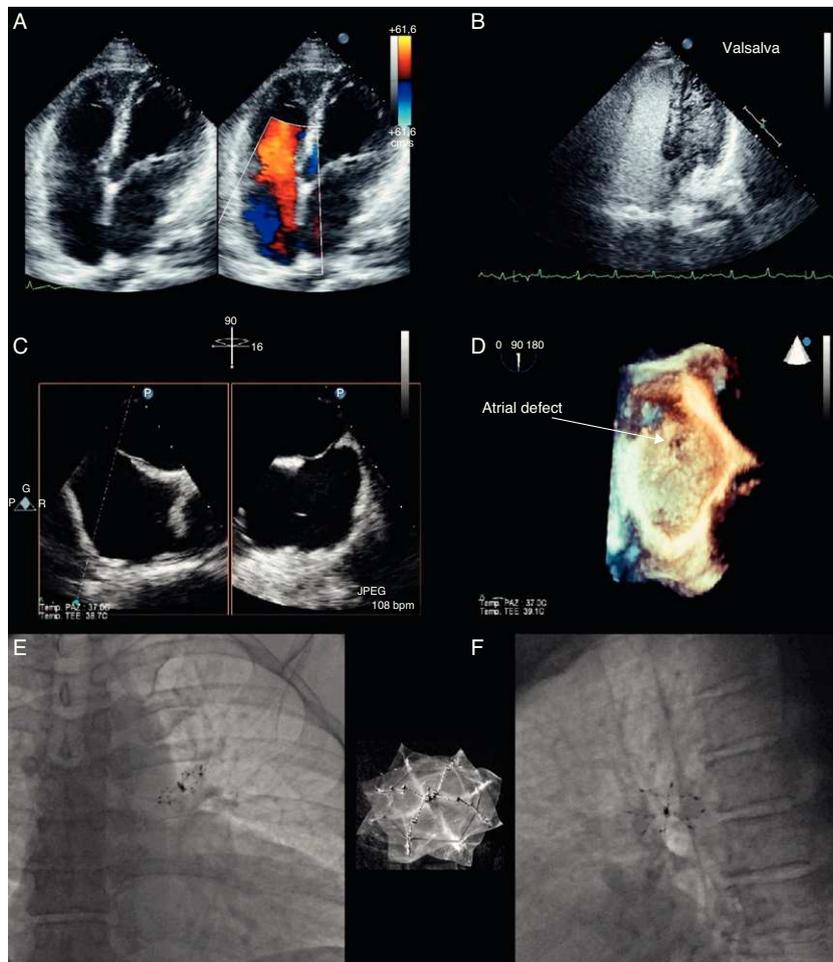
To better understand the pathophysiology of the shunt 3D real-time transesophageal echocardiography was performed. The septal occluder was not found on the interatrial

septum (Figure 1C). A small interatrial defect was identified close to the foramen ovale (Figure 1D, video clip 2) with a trivial left-to-right shunt (Qp/Qs 1.1) in baseline conditions; the agitated saline contrast test after the Valsalva maneuver was markedly positive. Given the suspicion of distal embolization of the device, cardioscopy was performed: the Biostar was found in the left pulmonary artery (Figure 1E and F, video clips 3 and 4), without hemodynamic effects (mean pulmonary artery pressure 18 mmHg).

In accordance with the clinical and instrumental findings, the patient was enrolled for long-term follow-up, with regular clinical and echocardiographic monitoring in order to prevent complications.

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**Figure 1** (A) Transthoracic echocardiography; (B) contrast echocardiography; (C) 3D real-time transesophageal echocardiography; (D) 3D off-line reconstruction of the PFO; (E and F) cardioscopy.

### Ethical disclosures

**Right to privacy and informed consent.** The authors declare that no patient data appear in this article.

**Confidentiality of data.** The authors declare that no patient data appear in this article.

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

### Conflicts of interest

The authors have no conflicts of interest to declare.

### Appendix A. Supplementary material

Supplementary material associated with this article can be found in the online version available at [doi:10.1016/j.repc.2012.04.011](https://doi.org/10.1016/j.repc.2012.04.011).