Embolization of percutaneous closure device

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An asymptomatic 27-yr-old man (who consented to this report) presented for elective percutaneous closure of an atrial septal defect (ASD). The 24 × 27 mm secundum ASD was accompanied by severe right ventricular enlargement with normal function and a shunt fraction ($Q_p:Q_s$ ratio) calculated at cardiac catheterization of 4.3.

Under general anesthesia with transesophageal echocardiography and fluoroscopic guidance, a 30-mm Amplatzer Septal Occluder was selected (St. Jude, Santa Clara, CA, USA). The device was deployed and appeared to be well seated. After multiple stable “tug tests”, the device was released. The patient was extubated and

transferred to the post-anesthesia recovery unit. Shortly thereafter, the patient developed frequent premature ventricular contractions, although asymptomatic. Bedside transthoracic echocardiography showed that the ASD closure device had embolized into the left ventricle and was lodged in the left ventricular outflow tract (LVOT). No significant Doppler gradient was seen, and the patient remained hemodynamically stable.

The patient was taken to cardiac surgery for urgent surgical extraction of the device and patch closure of the ASD. The device was successfully extracted from the LVOT through a right atrial incision, and the ASD was

Figure Transesophageal echocardiographic (TEE) images obtained during attempted percutaneous device closure of a secundum atrial septal defect (ASD). A) Two-dimensional (2D) TEE mid-esophageal four-chamber view shows the large ASD (white arrow), which remains unclosed, along with the device (red arrow) embolized into the left ventricular outflow tract (LVOT). B) A TEE 2D mid-

esophageal long-axis view shows the closure device lodged in the LVOT. C) A TEE three-dimensional (3D) mid-esophageal long axis view shows the closure device lodged in the LVOT. Video loops of the 2D and 3D mid-esophageal long-axis view are available as electronic supplementary material. Ao = ascending aorta; LA = left atrium; RA = right atrium; RV = right ventricle

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repaired with a patch of bovine pericardium. The patient had an uncomplicated postoperative course. Device embolization is a rare but serious complication of percutaneous ASD closure.¹

Conflict of interest None declared.

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