Silent early migration of a Figulla® septal occluder into the left ventricle

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A 61-year-old woman with a history of obesity and paroxysmal atrial fibrillation was referred to our institution because of progressive dyspnoea. Transthoracic and transoesophageal echocardiography revealed a 19-mm secundum atrial septal defect (ASD) with adequate rims, suitable for percutaneous closure and a left to right shunt with right-sided heart enlargement. The procedure was performed under intracardiac echocardiographic and fluoroscopic guidance. A 21-mm waist diameter Occlutech Figulla ASD occluder (Occlutech GmbH, Jena, Germany) was successfully delivered with good positioning at the final intracardiac echographic and fluoroscopic control. The following day the patient appeared asymptomatic and in a haemodynamically stable condition. Surprisingly, follow-up transthoracic echocardiography revealed embolisation of the device. The ASD occluder was swinging freely in the left ventricle (LV) bulging into the left ventricular outflow tract (LVOT) and the aortic valve during systole. The device was rotating inside the LV, at times being oriented parallel to the flow and avoiding significant LVOT obstruction, but more worryingly, at other times, the device was transversal to the flow (Fig. 1). Although haemodynamically stable, the patient was immediately referred for surgical removal and repair of the ASD. The device was found to be embolised entirely into the LV (Fig. 2). Through the ASD, the device was gently retrieved without injury to the mitral valve and the septal defect was closed with a bovine pericardial patch. The patient had an uneventful recovery and was discharged a week later. Percutaneous ASD closure is an established safe alternative to surgery with rare complications and high primary success rate. Although device embolisation is a well-known complication, LV embolisation is rarely encountered. (Supplementary video files — see journal website)

Figure 1. A. Echocardiography parasternal long-axis view, showing the septal occluder device (arrow) located in the left ventricle longitudinally to the outflow tract, swinging and trying to cross the aortic valve; B. Echocardiography parasternal long-axis view. The device has rotated (arrow) and is oriented transversely to the outflow tract and seems to be swayed by the mitral valve.

Figure 2. Intraoperative view of surgical occluder device removal (black arrow)