



Unexpected early migration of a patent foramen ovale occluder

Johannes Mair · Silvana Müller · Axel Bauer

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Abbreviations

LA	Left atrium
PFO	Patent foramen ovale
RA	Right atrium

A Figulla® Flex II 23/25 mm patent foramen ovale (PFO) occluder (Occlutech®, Jena, Germany) was deployed across the atrial septum. Correct positioning was confirmed by fluoroscopy demonstrating the “pacman” sign (Fig. 1a arrow; the septum secundum is lying between both discs) without residual shunt in angiography via the delivery sheath (Fig. 1a), transesophageal echocardiography (TEE) (Fig. 1b, the septum primum and secundum are lying between both discs without partial deployment of its right atrial disc within the PFO tunnel; delivery system marked with arrow), and by stable position on repeated bidirectional “wiggle” maneuvers (supplementary video 1). Despite passing these checks it slipped unexpectedly from the atrial septum and embolized to the proximal abdominal aorta on intense coughing after its release. The PFO occluder migration could be successfully managed by percutaneous retrieval (Fig. 1c, see supplementary video 2). Careful PFO reassessment revealed a large, high-risk, long-tunnel PFO (length 21 mm, width 6 mm, septum secundum

thickness 6 mm) with a hypermobile atrial septum (septal excursion 10 mm) and a large Eustachian valve (Fig. 1d, arrow). A larger, somewhat less compliant Amplatzer™ 30-mm PFO occluder (Abbott®, Vienna, Austria) was deployed across the PFO and released in the correct position (Fig. 1e) despite a single dislocation of its right atrial disc into the PFO tunnel upon a vigorous push (Fig. 1f, supplementary video 3), because this device was stable afterwards with several repeat “push and pull” maneuvers and a 35 mm PFO occluder was deemed to be too large in this patient considering the risk of erosion and residual shunt. There was no residual shunt in a follow-up TEE after 7 months. The importance of careful assessment of true PFO tunnel length in preprocedural TEE for device size selection is stressed. Other anatomical predisposing factors (atrial septal aneurysm, a > 10 mm thick septum secundum) for occluder migration were not present in this patient [1–3].

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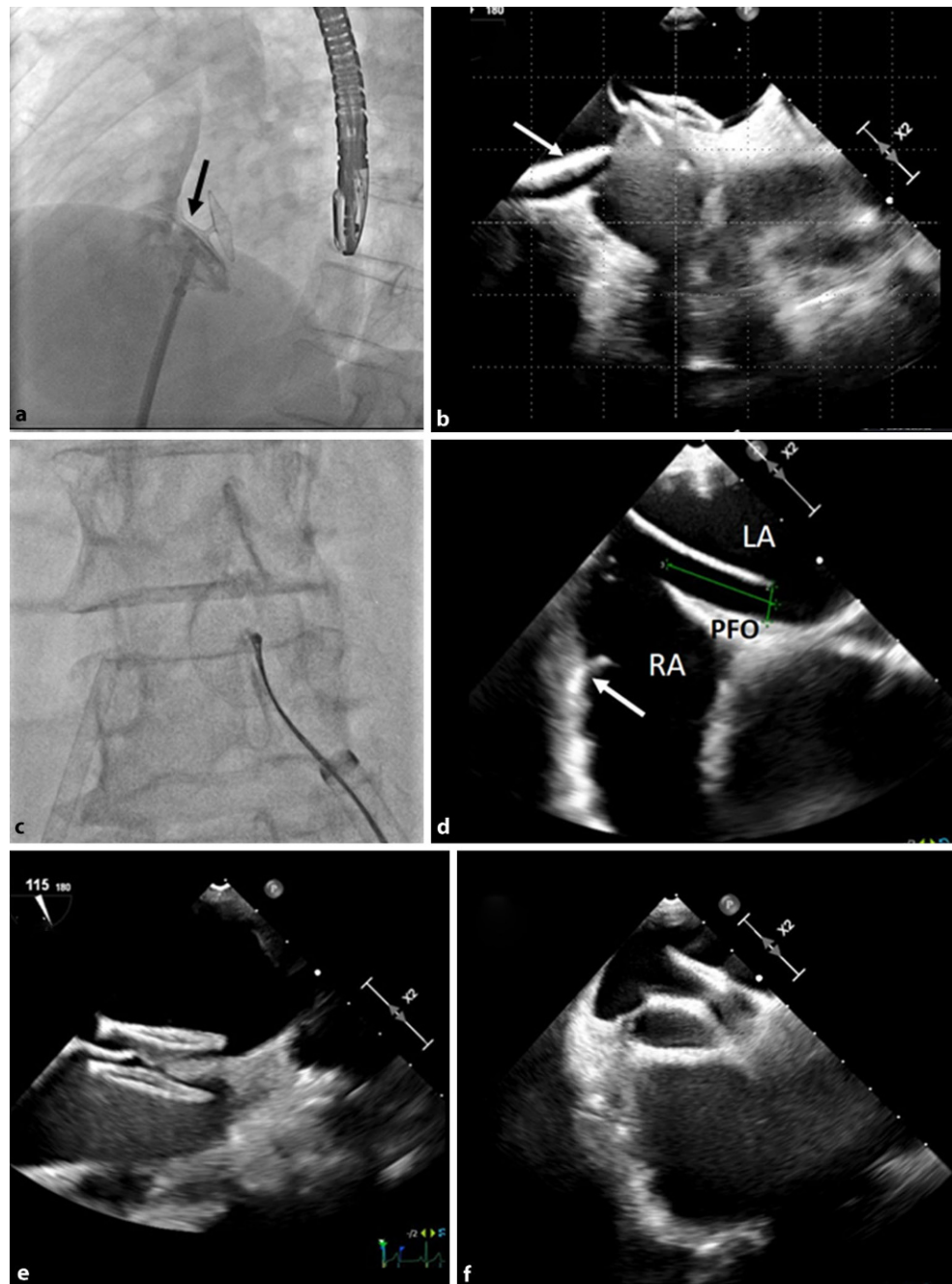
Conflict of interest J. Mair, S. Müller and A. Bauer declare that they have no competing interests.

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Video online The online version of this article contains 3 videos. The article and the videos are online available (<https://doi.org/10.1007/s00508-021-01894-z>). The videos can be found in the article back matter as “Supplementary Information”.

Ao. Univ.-Prof. Dr. J. Mair (✉) · Dr. S. Müller ·
Univ.-Prof. Dr. A. Bauer
Department of Internal Medicine III—Cardiology
and Angiology, Medical University Innsbruck,
Anichstraße 35, 6020 Innsbruck, Austria
Johannes.Mair@i-med.ac.at

Fig. 1 Complicated patent foramen ovale (PFO) occlusion: Figulla® 23/25 mm occluder before release (**a, b**); migrated occluder retrieval (**c**); long-tunnel PFO (**d**); Amplatzer® 30 mm PFO occluder before release in correct position (**e**) and with dislocated right atrial disc upon a vigorous push (**f**)



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