Thrombus formation on the Amplatzer device: a need for critical attitude in percutaneous patent ovale closure decision-making

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A 37-year-old female was admitted to the hospital for the gradually increasing fatigue 2 months after 9-PFO-025 Amplatzer Occluder implantation. The decision to close patent foramen ovale (PFO) with right-to-left shunt upon Valsalva manoeuvre was made after the clinically diagnosed transient ischaemic attack. According to her medical history, 3 years ago an incident of deep vein thrombosis followed by the diagnosis of the deficiency of protein C and protein S has occurred. Since then, she has been treated with acenocumarol, using lower doses during menstruations because of the heavy bleedings. Additionally she has been 6 weeks into her second pregnancy. A transoesophageal echocardiogram revealed a thrombus (26 × 12 mm) situated at the place of the attachment of the delivery system on the right side of the occluder and minimal residual left-to-right shunt. Computed tomography pulmonary angiogram and pulmonary scintigraphy confirmed the suspicion of pulmonary embolism. Unfractionated heparin improved clinical condition but no resolution of thrombus was observed. After evaluation by the multidisciplinary team (cardiologist, interventional cardiologist, cardiac surgeon, gynaecologist, haematologist), with the patient’s approval, the pregnancy was terminated. During further observation the thrombus has resolved and reappeared. The recurrent episodes of dyspnoea occurred on exertion with an increase in the perfusion defect on control scintographies. These changes were observed despite various anticoagulant strategies with rivaroxaban, acenocumarol and recently the combination of acenocumarol with aspirin with INR within the therapeutic range. In the end the explantation of the occluder was performed.

The presented case illustrates that in patients with PFO a careful clinical investigation and a critical attitude are necessary in invasive decision-making.

Panel A: Transoesophageal echocardiogram of the thrombus attached to the right-atrial side of the device. RA, right atrium.
Panel B: Intra-operative view of the device.
Panel C: Transoesophageal echocardiogram of the device with minimal residual left-to-right shunt. RA, right atrium; LA, left atrium.
Panel D: Image of the device and thrombus.

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