

THE USE OF VASCULAR DETACHABLE COIL FOR PERCUTANEOUS CLOSURE OF IATROGENIC AORTO-RIGHT ATRIAL FISTULA

Maksymilian Mielczarek², Robert Sabiniewicz¹, Tomasz Królak³, Lidia Wozniak-Mielczarek¹, Dariusz Ciećwierz²

¹Department of Pediatric Cardiology and Congenital Heart Diseases, Medical University Gdansk, Poland

²Department of Cardiology, Medical University Gdansk, Poland

³Department of Cardiology and Electrotherapy, Medical University Gdansk, Poland

HISTORY AND PHYSICAL

The number of intracardiac procedures requiring transseptal access have increased sharply in the recent years and complications associated with this technique are inescapable. We present a 68-year old male in whom the aorta was inadvertently punctured while obtaining transseptal access. After transseptal sheath had been retracted from the aorta, the patient was stable with no pericardial effusion. Therefore, surgery was suspended and the leakage was left to heal.

IMAGING AND INDICATION FOR INTERVENTION

Transesophageal echocardiography two months later revealed connection between the non-coronary sinus of Valsalva and the right atrium (RA), which measured 3 mm in diameter. Color Doppler identified fast, continuous flow from the aorta to the RA (**PANEL A**).

INTERVENTION

Percutaneous closure of the fistula was attempted. The fistula was intubated from the aortic side with a guiding Amplatz Right 2 (AR2) 5Fr catheter (**PANEL B**). Two intracoronary wires were passed across the fistula into the RA. With support of a balloon catheter (2.0 x 20 mm) positioned in the RA, the catheter was able to cross the fistula (**PANEL C**). The 5 mm detachable coil (MReye® Flipper®, Cook Medical) was used (**PANEL D**). The first two loops were created in the RA (**PANEL E**), subsequently the catheter was retracted and the other two loops were formulated at the aortic side. The procedure resulted in immediate leakage blockage (**PANEL F**).

LEARNING POINTS OF THE PROCEDURE

Spontaneous closure of aorto-right atrial fistulas have been reported. However, if this fails surgical or percutaneous closure is warranted. Persistence of aorto-right atrial shunt may result in chronic volume overload, but even small fistulas need treatment as they predispose to infective endocarditis or aortic dissection. Percutaneous treatment represents an attractive alternative to surgery. In percutaneous approach vascular plugs, duct occluders or atrial septal occluders have been utilized. In case of small fistulas vascular coils can be effective as was shown in the present case.

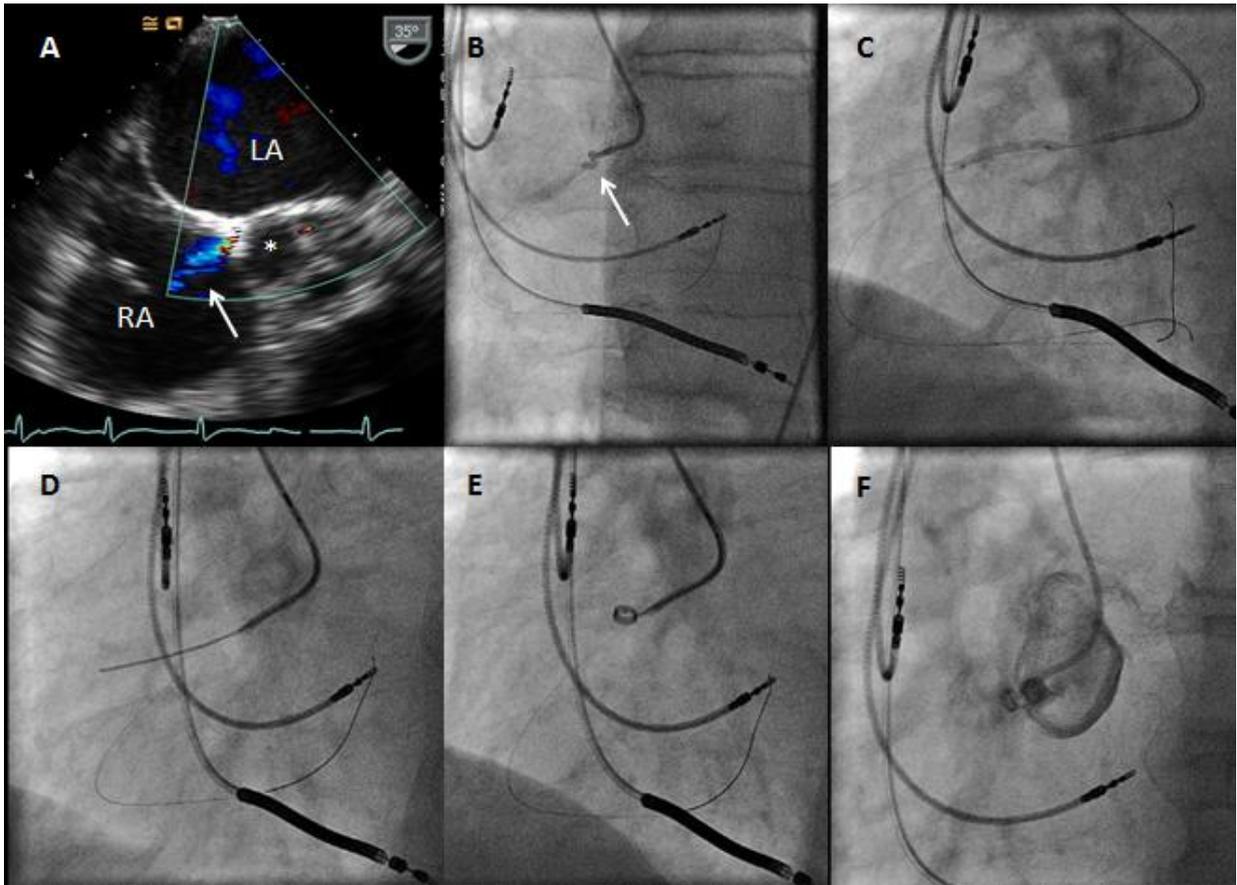


Figure legends

PANEL A – continuous flow (arrow) between the aorta and the right atrium (RA), originating above non-coronary aortic valve cusp (asterisk), LA – left atrium;

PANEL B – fistula (arrow) intubated with a guiding Amplatz Right 2 (AR2) 5Fr catheter, stabilized with a coronary wire placed in the RA;

PANEL C – guiding AR2 5Fr catheter crossing the fistula with a support of two coronary wires and a 2.0 x 20 mm balloon inflated in the RA;

PANEL D – Unfolded 5 mm detachable coil (MRye® Flipper®, Cook Medical) inserted in the RA;

PANEL E – The first two loops of the coil created in the RA;

PANEL F – Another two loops were formulated at the fistula aortic entry; contrast injection revealed complete leakage blockage.