Right ventricular aneurysm and large coronary arteriovenous fistula in a 3100 g infant

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A 1-month-old baby girl, weighted 3100 g, was noted to have Grade III/VI continuous murmur 1 day after birth. Echocardiogram revealed a large coronary fistula from the right coronary artery to the right ventricle (RV) with large aneurysmal dilatation of RV (Panels A–C, black arrows; see Supplementary material online, Video S1). Because of intractable heart failure, transcatheter closure for the 9.5 mm fistula (Panel D, white arrows) with Amplatzer® vascular plug (9-PLUG-012) (Panels E and F, black arrowheads) was attempted at the age of 1 month. Echocardiogram 1 week after the procedure showed no residual shunt (Panel F). The aneurysm of the right ventricle (Panels G and H) also regressed after the procedure (Panels F and I) as shown on computerized tomographic images. The level of pro-brain natriuretic peptide also decreased from 35 000 to 390.8 pg/mL. Post-interventional course was uneventful. The patient was discharged 7 days after transcatheter closure.

Right ventricular aneurysm in young infancy is rare. It can be either congenital or secondary to trauma, infection, or post-operative complications. Mostly, the ventricular aneurysm is treated with surgical aneurysmectomy. In this patient, RV aneurysm resulted from a large right coronary artery fistula to the RV, which has not been reported before. We herein suggested that transcatheter closure could be an alternative for such small infants with a ventricular aneurysm due to large coronary artery fistula(e).

Supplementary material
Supplementary material is available at European Heart Journal online.