

Aneurysmal Dilation of CAF after TCC

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In the year 2008, a 3-year-old boy presented with congestive heart failure. Continuous heart murmur with diastolic accentuation was audible at the right lower sternal border. Ascending aortogram revealed a large coronary artery fistula (CAF) from the right coronary artery (RCA) to mid right ventricle (RV). (Figure 1) The fistulous tract appeared tortuous with aneurysmal dilatation at its distal segment before entering into the RV. The diameter of aneurysm was 25 mm and RV orifice was 4 mm in diameter. Normal native left coronary artery was identified at proximal portion of the fistula.

As for concerns of significant heart failure and risk of coronary insufficiency, transcatheter closure (TCC) was successfully performed in retrograde fashion using Amplatzer duct occluder (ADO I) 8/6 to close the fistulous tract at its RV orifice. (Figure 2) There were no heart murmur and residual shunt (demonstrated by echocardiogram& aortogram) immediate after implantation.

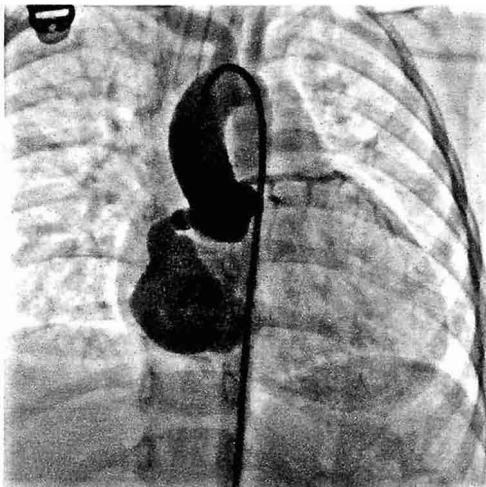


Figure 1: Ascending aortogram

เสนอโดยนางสาวพิมพ์ภักดิ์ ประชาศิลป์ชัย ตำแหน่ง นายแพทย์ สถาบันสุขภาพเด็กแห่งชาติมหาราชินี

ในการประชุมวิชาการ Imaging Cardiovascular Interventions 2012 และการประชุม “Congenital and Structural Interventions 2012” ซึ่งจัดขึ้นระหว่างวันที่ ๒๗ - ๓๐ มิถุนายน ๒๕๕๕ ณ สหพันธ์สาธารณรัฐเยอรมนี

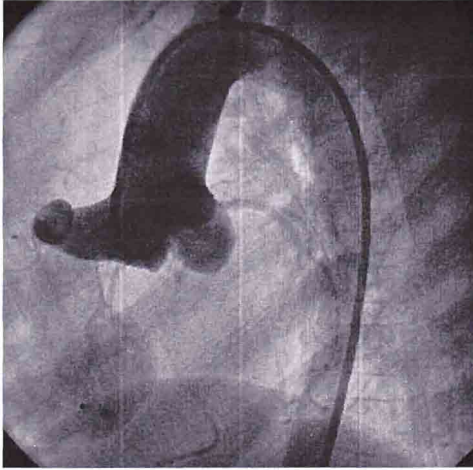


Figure 2: Post ADO I (8/6) implantation

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However, he was lost to follow-up from our institution for 3 years. Early this year, without symptoms, screening echocardiogram was performed by local pediatric cardiologist showing a huge fistulous pouch compressed the right ventricular free wall. No residual shunt was detected. (Figure 3) Left and right ventricular systolic function were well preserved.

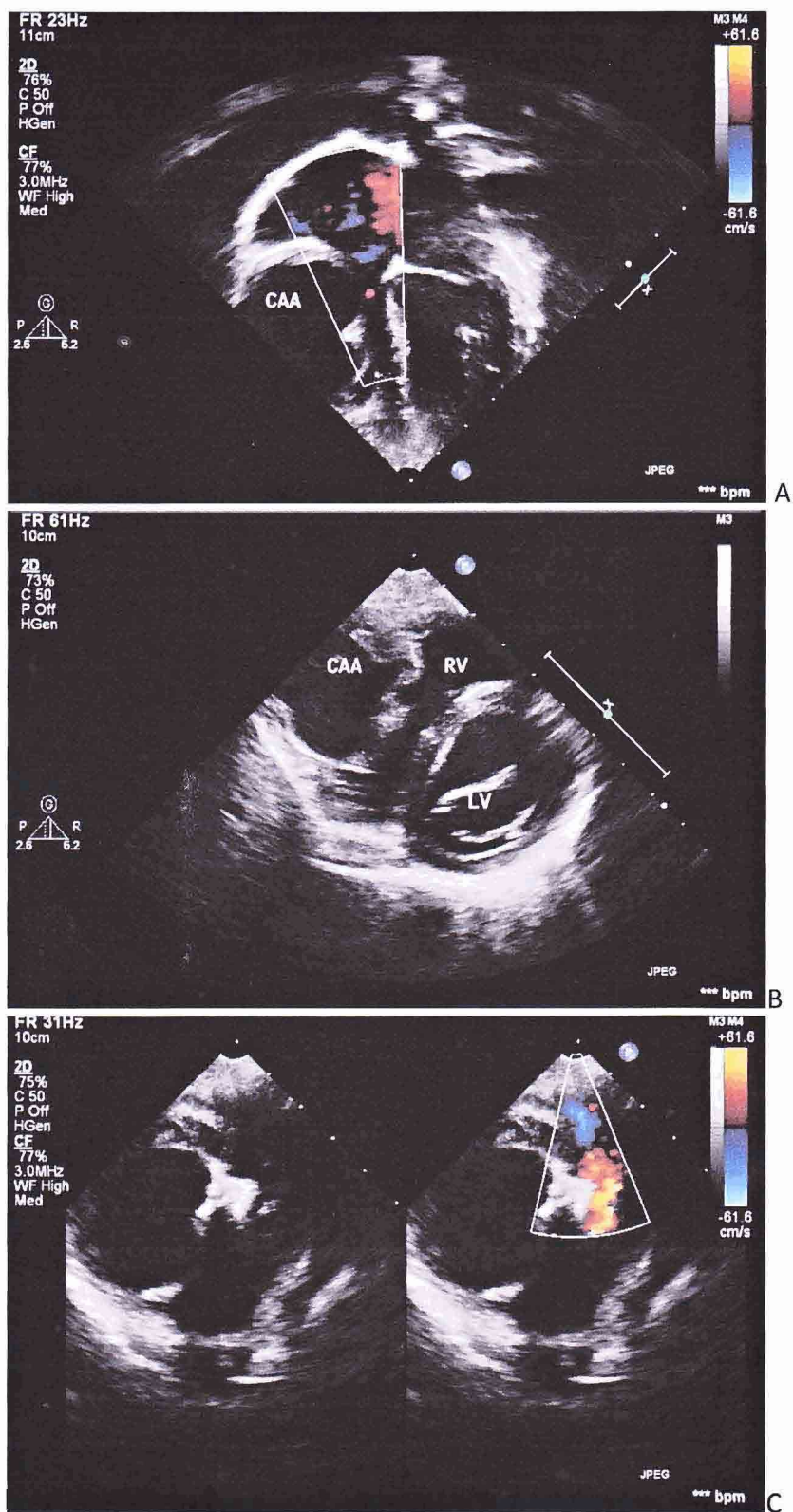


Figure 3: A: Four chamber view, B: Short axis view of the ventricle C: No residual shunt (CAA; Coronary aneurysm, LV; Left ventricle, RV; Right ventricle)

He was referred back to our institution for further investigation. Initial ECG showed normal sinus rhythm without significant ST-T changes. CT angiography showed a very huge blind pouch fistulous track (31 x 42 mm) with partial compression of the RV. (Figure 4) Compared to previous measurement of the aneurysmal part prior to TCC, the size of the pouch was significantly increased. The patient was eventually transferred for surgical repair.

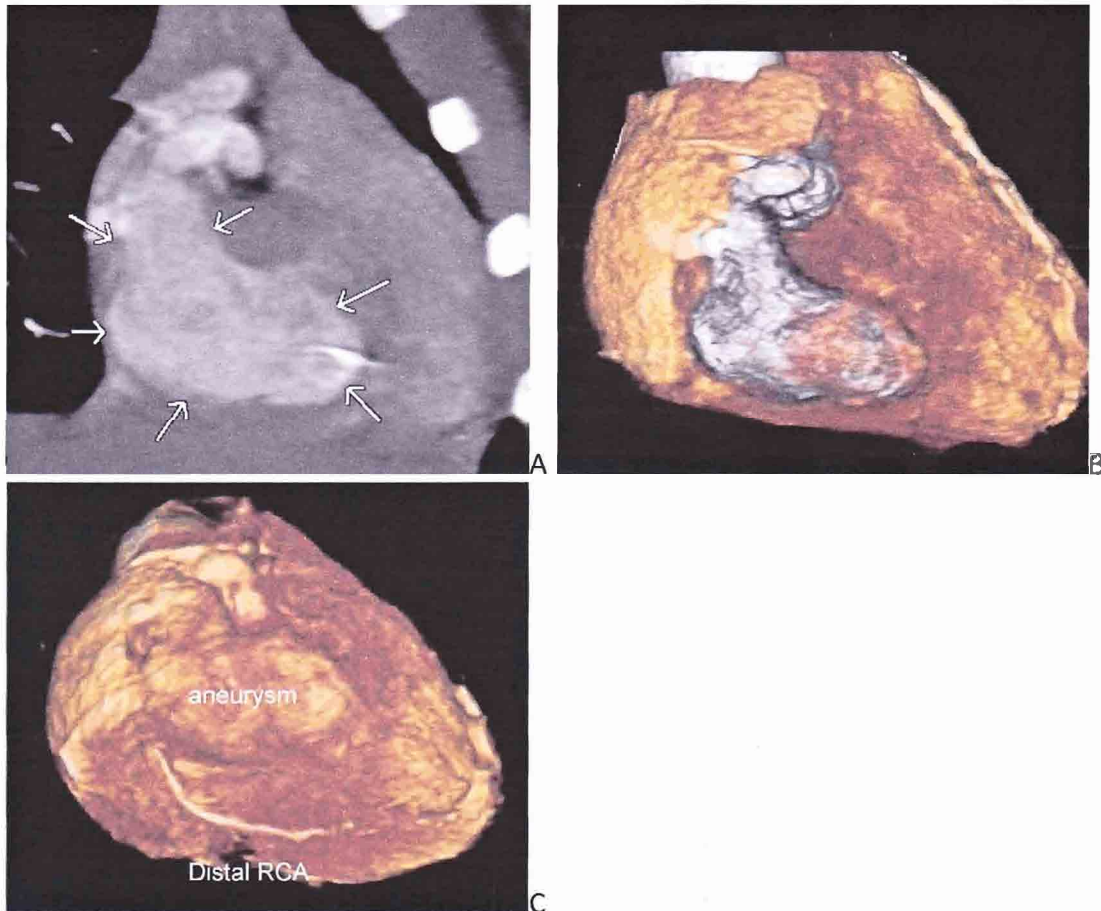


Figure 4: A: Coronal oblique reformation, B,C: Volume rendered VR (RCA; Right coronary artery)

Although general recommendation of the landing zone for TCC is to deploy the device as distal as possible, in some particular cases this rule should be omitted since regression of a huge aneurysm may not occur even in long term periods.