Successful Catheter Ablation of a Concealed Superio-paraseptal Accessory Pathway along the Tricuspid Valve in a Fontan patient with extra-cardiac Conduit after Creation of a Trans-Catheter Communication

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Introduction
An extracardiac PTFE Fontan conduit may prevent antegrade access to the pulmonary venous atrium. However, such an antegrade approach may be necessary for successful catheter ablation of a “left-sided” arrhythmia substrate.

Objective
We describe the technique of creating a trans-catheter communication through an extracardiac Fontan conduit for catheter ablation of a “left-sided” arrhythmia.

Case Report
A 23-year-old male patient with double outlet right ventricle, mitral atresia, severe left ventricular hypoplasia, subpulmonary ventricular septal defect, valvar pulmonary stenosis and D-transposition of the great arteries after modified Fontan anastomosis with an extracardiac PTFE conduit presented with recurrent supraventricular tachycardias despite antiarrhythmic medication. Invasive electrophysiological testing showed a “left-sided” concealed accessory pathway that could not be reached by a retrograde approach from the aorta through the tricuspid valve. Based on our experience with creation of trans-catheter fenestrations in Fontan patients, we decided to cross the extra-cardiac conduit by Brockenbrough technique utilizing a trans-septal needle, followed by gradual balloon dilation of the conduit-atrial-wall, which allowed placement of a 8F long sheath within the pulmonary venous atrium. The accessory pathway could be uneventfully mapped and ablated at the superoparaseptal aspect of the tricuspid valve.

Conclusion
In Fontan-circulation with extra-cardiac-conduit catheter ablation of "left-sided" arrhythmias is feasible by creation of a trans-catheter fenestration.