

**P-278**

### **Catheter Rehabilitation of Occluded Aberrant Right Pulmonary Artery**

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#### **Introduction:**

A 10 year old asymptomatic girl was found to have right lung hypoplasia during routine chest X-ray for a viral infection. CT chest documented an absent right pulmonary artery, but normal bronchial tree and a suggestion of pulmonary veins. Cardiac catheter documented a large left pulmonary artery and a diverticulum of Kommerell on the underside of a right innominate artery in the setting of a left arch. Pulmonary vein wedge angiography identified a hypoplastic disconnected right pulmonary artery system. We postulated that re-canalization of the occluded ductus arteriosus would re-establish flow to the RPA and promote growth, allowing for later surgical repair.

#### **Methods:**

The occluded ductus arteriosus could be re-crossed with a straight 0.018 Terumo wire. This was exchanged for an 18 G perfusion catheter for test injections and for exchange for a 0.014" stiff coronary wire. The occluded duct was then stented to 5mm diameter using 2 uncovered coronary stents. The procedure was uneventful.

#### **Results:**

There was no change in exercise tolerance. Clinically and on ultrasound there was good flow through the stented duct. On repeat angiography the RPA system had grown significantly with an increase in diameter from 3 mm to 12 mm. The patient is now listed for surgical repair (interposition graft from MPA to RPA).

#### **Conclusions:**

Unilateral lung hypoplasia, in the setting of a normal bronchial tree and absent pulmonary arterial supply should prompt the detailed search for a native pulmonary artery system. Catheter re-canalization should be attempted, in order to establish perfusion and growth.

