

## **Outcomes of Ductal Stenting with Pre-existing Branch Pulmonary Artery Stenosis - revisiting the American Heart Association Guidelines**

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### **Introduction:**

Patent Ductal Arteriosus (PDA) stenting in the setting of pre-existing branch pulmonary artery (PA) stenosis is controversial. Current American Heart Association guidance is to avoid ductal stenting in this setting.

Over the recent years we have undergone a learning curve in complex ductal stenting. CT imaging enabled better understanding of complex ducts, aided patient selection, planning and consideration of access routes. Improved procedural success, long surgical waiting lists as well as the mortality and morbidity of the mBTS in the current era led us to cautiously revisit our position with regards to the AHA guidelines.

### **Methods:**

Prospective review of patients (<3 months, > 2.5 kg) undergoing PDA stenting with ductus related branch PA stenosis between Jan 2014 – Dec 2015. The growth of the jailed stenotic PA branch with the contralateral PA was compared angiographically 6-12 months later.

### **Results:**

46 patients underwent ductal stenting. 37% had ToF-PA (17/46).

4 patients required early modified Blalock Taussig Shunt (mBTS) and were further excluded.

The unaffected PA showed good growth (mean Z score from -0.6 to +2.2). The jailed PA also showed proportionate growth (mean Z score from -1.4 to + 1.1) in 93% (37/40). 3 patients showed poor PA growth (2 underwent restenting, 1 mBTS to affected side). There was no in-hospital mortality and 3 deaths occurred.

### **Conclusions:**

In an era where neonatal mBTS continues to have significant morbidity and mortality, we feel that ductal stenting in complex PDA's with pre-existing PA stenosis is a feasible alternative. The stenosed, jailed PA still has potential for proportionate growth. Patient selection, antiplatelet therapy and close follow up is vital. Stent removal with surgical repair within 1 year of age is our current recommendation.