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### **Challenges of clinic surveillance following coarctation of the aorta repair**

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Introduction: Systemic hypertension following coarctation of the aorta(COA)repair is well described in adulthood. However, data in childhood are limited and blood pressure monitoring in clinical setting remains challenging.

Aims: The aim of this study was to assess the incidence of high blood pressure in COA patients following surgical or interventional repair and assess its determinants.

Methods:Our study population consisted of 123 patients who attended the cardiac outpatient clinic between January 2016-January 2017 and had surgical or interventional COA repair. Patients with isolated COA, associated atrial or ventricular septal defects or in associations with complex lesion were included.

Study design: Retrospective data collection from electronic cardiac outpatient clinic letters. Systolic and diastolic blood pressure(BP) was measured using automated device in a sitting position. BP measurements were converted to z scores using Cardio Z for patients over 1 year and New Zealand nephrology guidelines for <1 year.

Results: From the 123 children only 105 had reliable observations recorded. Systolic BP was >95th centile in 27% of children. 18% of patients were on antihypertensive medication (ACE inhibitor or beta-blocker). 62% of the patients had isolated COA, 16% had COA associated with VSD /ASD and 20% had COA in association with complex lesions. Median age at intervention was 15 days (1-5581) and a metal suspicion was raised in 35%. There was poor correlation between LWPW z scores and SBP z scores ( $r=0.330, p=0.746$ ). The SBP was significantly associated with the Doppler velocity in the descending aorta ( $r=0.319, p=0.012$ ) and age at operation and hypertension had a positive correlation ( $r=0.301, p=0.016$ ).

Conclusion: The data from this retrospective study demonstrate that increase BP is of concern in childhood. Although one third of children were hypertensive in the cardiac outpatient clinic, half of those were on antihypertensive therapy. Further studies are needed to demonstrate whether aggressive BP medication in childhood will translate in long term cardiovascular benefit.