

**Outcomes of late presentation of Coarctation of the Aorta at a tertiary paediatric cardiology centre**

*Ramcharan T., Eltayeb H., Mehta C., Chikermane A.  
Birmingham Children's Hospital NHS Foundation Trust, Birmingham, England*

**Introduction:** Aortic coarctation accounts for 7% of congenital heart disease, and generally presents in neonates with collapse/ heart failure or in older children as hypertension/ incidental finding. We aim to investigate outcomes of late presentation of aortic coarctation.

**Methods:** A retrospective, observational study of children >3 years with isolated aortic coarctation (+/- bicuspid aortic valve) between 2000-2015 from a tertiary paediatric cardiology centre.

**Results:** 170 children (0-16 years) diagnosed with isolated aortic coarctation; 47 (28%) of these patients were >3 years. Median age of delayed presentation was 8 years; 77% were male. Twenty-three patients (49%) had bicuspid aortic valve. Hypertension & murmur were the commonest presentations accounting for 70% of referrals. On review, 86% had a murmur, 89% had reduced/ absent femoral pulses. All patients with hypertension were on medication, majority beta-blockers (79%).

Of those with documented echocardiograms (n=46), 76% had visible coarctation, with 11% having features suggestive of coarctation. The remaining 13% couldn't be adequately diagnosed with echocardiography. 55% had cross-sectional imaging, the majority having MRI. Of those that had chest radiographs, 52% had evidence of rib-notching. 22% had abnormal renal function, possibly representing abnormal renal perfusion.

Thirty-eight patients (81%) underwent cardiac catheterisation with balloon/ stent dilation of coarctation, of which 4 needed cardiac surgical intervention later. Seven patients had a primary surgical repair, of which 4 had prior diagnostic cardiac catheters. Two patients needed no intervention. Of the patients undergoing interventional cardiac catheterisation, 11 needed repeat interventions with balloon/ stent dilation, on average twice. No patients needed repeat surgical intervention.

Only one patient (catheter) had procedural complication, with balloon rupture. No patients had evidence of spinal ischaemia or permanent renal pathology, and there was no cardiac-related mortality.

**Conclusions:** This series shows a proportion of aortic coarctation present late, with hypertension/ murmur being the main finding. Weak femoral pulses can be a useful adjunct to diagnosis. Cross-sectional imaging is necessary as echocardiography does not always sufficiently image the arch and descending aorta in older children. Catheter intervention is a viable alternative to surgery; there is a need for further catheter intervention and this should be considered when counselling families.