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**Could subclavian flap repair be superior to end-to-end anastomosis for coarctation of the aorta?**

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**Aim:** To evaluate the long-term outcome in patients who had subclavian flap repair (ScF) or end-to-end anastomosis (EEA) of native coarctation of the aorta in childhood. We hypothesised that since subclavian flap repair does not leave a circumferential scar, it would be associated with greater aortic diameter at the repair site and lower flow velocity compared to end-to-end repair as assessed by cardiac magnetic resonance imaging (cMRI).

**Methods:** From a specialist adult congenital cardiology clinic, we identified all patients older than 18 years of age who underwent repair of coarctation of the aorta in childhood and who had undergone cardiac magnetic resonance imaging prior to any reintervention. Operation type, minimal aortic diameter at the repair site, velocity at repair site and Coarctation Index (ratio of diameter at repair site to diameter at diaphragm) were recorded and an index of  $<0.75$  defined re-coarctation. Chi square and unpaired Student's t-test were performed and a P value  $<0.05$  was considered statistically significant.

**Results:** Data was available for 47 patients (ScF=22, EEA=25). median age 28.2years (17.8 – 76.8), median age at repair 3 years ( $< 1$  to 31 ), 24 (51%) female. The Coarctation Index was significantly better in the ScF group vs the EEA group ( $0.89\pm0.28$  vs  $0.74\pm0.19$ ,  $P=0.046$ ) and statistically fewer patients in the ScF group had a Coarctation Index  $<0.75$  (Chi squared 4.9,  $P=0.03$ ). Flow velocity at the repair site was lower in the ScF group than in the EEA group ( $1.57(\pm0.44)$  vs  $1.74(\pm0.57)$ m/s) but this did not reach statistical significance.

**Conclusion:** There is a lower incidence of re-coarctation of the aorta in adults who underwent repair using the subclavian flap technique versus those who underwent end-end anastomosis. Further studies are needed to determine whether this translates into reduced need for reintervention, and superior clinical outcomes in these patients.