

## MP3-20

### Predictors of Left Ventricular Hypertrophy after Correction of Aortic Coarctation

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**Introduction:** Left ventricular hypertrophy (LVH) is a risk factor for adverse cardiovascular events. The association between untreated aortic coarctation (Co) and LVH is known, but LVH prevalence in treated patients is not well established.

**Objective:** Identify predictors of LVH in patients submitted to Co correction.

**Methods:** Retrospective study of 100 randomly selected patients submitted to surgical or percutaneous treatment of Co, with a minimum follow-up of 6 months. Patients with LV outflow obstruction were excluded. For patients younger than 21 years, LVH was defined as a LV mass above 2 Z scores. For older patients, LVH was defined as LV mass index > 95g/m<sup>2</sup> in women and 115g/m<sup>2</sup> in men, according to American Society of Echocardiography guidelines.

**Results:** 68% of patients are male. Median age at time of treatment was 4.4 years old (10 days to 75 years). 56 patients were submitted to surgical correction and 44 to percutaneous treatment (24 balloon dilation and 20 stent implantation). Mean follow up time was 11.0 ± 10.3 years (6 months to 44.8 years). 42 patients have hypertension (HT) and 26 LVH. Univariate analysis revealed a higher incidence of LVH in male gender (33.8% vs. 9.4% in females, p=0.013), age at follow-up > 21 years (47.8% vs. 7.4%, p<0.001), age at treatment above 1 year (34.8% vs. 8.8% under 1 year, p<0.01) and presence of HT (40.5% vs. 14.3% in non HT patients, p<0.01). LVH was not influenced by type of treatment (26.8% surgical vs. 25.0% percutaneous, p=NS) nor presence of bicuspid aortic valve (15.8% vs. 32.3% for tricuspid, p=NS), nor residual gradient (p=NS). Multivariate analysis revealed that male gender (p<0,001) and age > 21 years at follow up (p<0.001) were independent determinants of LVH.

**Conclusion:** There is a high incidence of patients with HT even after effectively treated Co. The incidence of LVH in our study (26%) was higher in males and older patients, and was not influenced by type of treatment nor presence of bicuspid aortic valve. These findings reinforce the need for long term follow up of effectively treated Co patients as HT and LVH are frequent late complications.