observed in patients with CHD. However, this progression was significantly more pronounced in patients with SCD.

**CONGENITAL HEART DISEASE: PREDICTORS OF OUTCOME**

**P2100 | BEDSIDE**

Elevated aldosterone levels may guide initiation of valsartan in patients with a systemic right ventricle

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**Purpose:** In our recent trial, we showed that angiotensin II receptor blocker valsartan had a more profound effect on ejection fraction and ventricular volumes in symptomatic as opposed to asymptomatic patients. However, ideally, one would aim to initiate therapy before patients become symptomatic. Aldosterone is an indicator of activation of the renin-angiotensin-aldosterone system, which its activated in symptomatic patients with left ventricular dysfunction and analysis costs are lower than NT-proBNP. Our aim was to study the association between aldosterone levels and the occurrence clinical events. In addition, we assessed the association between aldosterone levels and symptoms (NYHA II or higher) at baseline.

**Methods:** Patients with a systemic right ventricle were eligible. At baseline, plasma aldosterone levels were measured and patients were classified according to the NYHA criteria. Patients were followed-up for a mean of four years. Clinical events comprised death, tricuspid regurgitation requiring invasive treatment, ventricular and supraventricular arrhythmia, and worsening heart failure.

**Results:** Plasma aldosterone levels were analysed in 36 patients (mean age 34±12 yrs, 22 (61%) male and 16 (44%) ccTGA). Seventeen events occurred in 10 patients (8 episodes of arrhythmia, 7 episodes of worsening heart failure, 2 deaths and one re-operation). Elevated aldosterone levels (≥0.350 pmol/l) were associated with a higher incidence of clinical events. (HR 7.9, 95% confidence interval 2.1 to 29.7, p = 0.001). Mean aldosterone levels were 0.25 pmol/l in asymptomatic patient and 0.71 pmol/l in symptomatic patients (p=0.001). Patients in NYHA class II and IV (n=4) had especially high levels (1.14 pmol/l, p<0.001) compared to asymptomatic patients.

**Conclusion:** In patients with a systemic right ventricle elevated serum aldosterone levels are associated higher incidence of clinical events. Initiation of valsartan in patients with elevated aldosterone levels might prevent future symptoms.

**P2101 | BEDSIDE**

Symmetrical dimethylarginine is superior to NT-proBNP for detecting systemic ventricular dysfunction in adults after atrial repair for transposition of the great arteries

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**Purpose:** Asymmetrical dimethylarginine (ADMA) and its structural isomer symmetrical dimethylarginine (SDMA) were identified as biomarkers for left ventricular heart failure. It has been reported that ADMA is more sensitive than NT-proBNP in diagnosing heart failure in general adult congenital heart disease patients. The role of both biomarkers in patients with a systemic right ventricle after atrial repair for transposition of the great arteries (D-TGA) has not been evaluated.

**Methods:** In 45 patients (mean age 29.4±3.5 years, female 17 (37.8%)) SDMA, ADMA and NT-proBNP levels were measured and correlated to clinical parameters, cardiac functional parameters assessed by magnetic resonance imaging, and cardiovascular exercise testing.

**Results:** SDMA correlated significantly with systemic ventricular ejection fraction (RVEF) (r=0.40, p=0.007). In contrast, ADMA (r=0.08, p=0.54) and NT-proBNP (r=0.28, p=0.06) showed no correlation with RVEF. Additionally, SDMA distinguished between patients with a severely reduced, moderately reduced and normal RVEF. SDMA showed a strong correlation with QRS duration (r=0.51, p<0.0004), while ADMA (r=0.14, p=0.35) and NT-proBNP (r=0.27, p=0.07) did not. Furthermore, SDMA was elevated in patients with a broad QRS complex (>120 ms) compared to patients with a QRS complex < 120 ms.

**Conclusions:** In the current study SDMA emerged as a superior biomarker of systemic ventricular dysfunction in patients after atrial repair for D-TGA compared to NT-proBNP. The promising role of SDMA as a biomarker in this selected patient population needs to be confirmed in larger studies.

**P2102 | BEDSIDE**

Long term outcome of repaired pulmonary valve stenosis: role of age at first intervention


**Purpose:** Despite Pulmonary Valve Stenosis (PVS) being considered a low risk congenital heart disease, a number of events have been described along follow up. The aim of this study is to evaluate long term outcome of repaired PVS and to identify population at risk of complications and need for re-intervention.

**Methods and results:** From 1953 to 2010, 211 patients with PVS received surgical treatment (n=122; 57.8%) or percutaneous balloon valvuloplasty (n=89; 42.1%) in a single tertiary referral centre. The mean age at first intervention was 6.19±8.9 years (median 3 years). Patients with associated congenital heart defects other than atrial septal defect (ASD) or patent ductus artherosus (PDA) were excluded. 29% (n=59) of the patients were symptomatic before their first intervention and the peak right ventricular pressure was 95±34 mmHg in the cohort with invasive assessment. After a mean follow-up of 22.1±10.21 years, 90.9% of patients were in NYHA functional class I. However, major complications (death, stroke, embolism, arrhythmia or congestive heart failure) occurred in 38 (4.7%) of the patients (4.54% of patients with symptomatic and need for re-intervention (22.2% vs. 2.4%; p<0.001), and had higher prevalence of cardiomegaly (51.4% vs. 25.6%; p<0.005) before intervention. A significant difference was observed for major complications followed a bimodal pattern according to age at first intervention. Therefore we considered two groups: group A) < 1 month or 17 years (n=38; 18%); and, group B) 1 month to 17 years (n=172; 82%). Patients of group A showed an association with ASD or PDA (44.7% vs. 43%; p=0.01), were more symptomatic (75% vs. 19.2%; p<0.001), needed more drug therapy (22.2% vs. 2.4%; p<0.001), and had higher prevalence of cardiomegaly (51.4% vs. 25.6%; p<0.005) before intervention. A significant difference was observed for major complications followed a bimodal pattern according to age at first intervention.

**Conclusions:** Although patients with PVS showed an excellent long term outcome, intervention at extreme ages identifies a population with a higher risk of major complications and need for re-intervention during follow-up. Patients in this age group have other risk factors (symptoms and cardiomegaly before first intervention and associated ASD or PDA) should have a more strict control.