tion fraction (OR:1.12; p=0.008) and the in-hospital treatment (thrombolysis and anticoagulation vs. surgery; OR:11.03; p=0.023) where the only variables that predicted PVT recurrences at follow-up.

Conclusions: PVT is a life-threatening entity with a high morbidity and mortality, not only during hospitalization but also at follow-up. In survivors, lower ejection fraction and medical treatment during admission (thrombolysis or anticoagulation) are the main determinants for the recurrence of PVT DT after discharge does not provide any benefit compared to OAC, regarding mortality, recurrence or bleeding.

P2130 | BEDSIDE
Outcome and determinants of prognosis in patients undergoing isolated tricuspid valve surgery
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Background: Although tricuspid valve (TV) surgery has become more popular, isolated TV surgery is infrequently performed. The aims of this study were (1) to evaluate the postoperative and long-term mortality of patients undergoing isolated TV surgery, (2) to compare the outcomes of patients undergoing their first TV surgery or TV reoperation, and (3) to assess the additive value of echocardiographic and invasive hemodynamic evaluations for predicting postoperative outcome.

Methods and results: We followed a contemporary cohort of patients undergoing isolated TV surgery from January 1, 1995, through December 31, 2011. Preoperative demographic, echocardiographic, hemodynamic, and operative data were included. Outcome was all-cause mortality. We compared the outcomes of patients undergoing their first TV surgery (n=61) with those undergoing TV reoperation (n=31). Ninety-two patients (38% male; mean age: 56±14 years) were included. Kaplan-Meier survival analyses showed that 30-day, 3-month, 5-year, and 10-year mortality were 7.9%, 15.2%, 25.7%, and 53.7%, respectively. Mortality of the two groups of patients did not differ (log-rank test, p=0.339). Univariate Cox proportional hazards analysis identified age (p=0.0001), incarcerated vascular disease (p=0.001), glomerular filtration rate (p=0.022), NYHA classification (p=0.001), and pulmonary hypertension (p=0.005) as predictors of mortality. In younger patients (<59 years), NYHA classification and pulmonary hypertension were the only determinants of mortality (p=0.021; HR 6.716 [1.327-33.992]).

Conclusions: Isolated TV surgery is still associated with significant postoperative and long-term mortality. Pre-operative NYHA functional class and pulmonary hypertension in younger patients appear to determine prognosis.

P2131 | BEDSIDE
Performance of EuroScore II considering AVR in octogenarian patients: in-hospital mortality analysis in surgical patients
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In contrast with the inaccuracy of EuroScore I to predict in-hospital mortality after aortic valve replacement (AVR) in octogenarians, recommendations have been made to consider an alternative therapy in case of a EuroScore I ≥ 20. The performance of the new EuroScore in this population of patients has still to be documented.

P2132 | BEDSIDE
The long-term outcome of biological or mechanical prostheses for heart valve surgery: a meta-analysis of randomised clinical studies
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Background: The choice of a mechanical (MP) or biological prostheses (BP) is still not a consensus for patients with heart valve disease. Both prostheses have advantages and limitations depending on the age and clinical situation. The aim of this study was to determine the long-term results of MP or BP.

Methods: The methods included a systematic review of the following electronic databases Medline/Pubmed, Central-Cochrane Library, Embase/Elsevier, Scopus, Web of Science, and Lilacs which were conducted by independent researchers. Other journals and manuscript sources were also consulted. The following outcomes were analysed: bleeding, infective endocarditis, valve failure, thromboembolism, valve thrombosis, nonstructural dysfunction, re-operation and mortality rate.

We assessed and quantified statistical heterogeneity using Cochrans’ Q test and the I² statistic. An analysis for the binary outcomes was performed using the Mantel-Haenszel fixed effect models, or Der Simnonian and Laird for random effect models when heterogeneity was observed. We calculated the risk ratios (RR) with 95% confidence intervals (95% CIs). An assessment for publication bias was performed using Egger’s linear regression test. Two-sided p-values < 0.05 were considered statistically significant.

Results: A total of 6,286 references were identified; 19 were analysed and four were included in qualitative analysis and meta-analysis. In total, 1,528 patients formed the basis for meta-analysis. No significant difference was found in the total mortality rate between BP and MP in a follow-up period of 20 years (RR=1.05; CI95%:0.97-1.14; p=0.046). The risk of endocarditis (RR=1.14; CI95%; 1.09-1.90), nonstructural dysfunction (RR=11.78; CI95%; 5.11-27.17) and re-operations (RR=3.60; CI95%; 2.51-5.17) were higher for patients with BP; however, paravalvular leak (RR=0.45; CI95%;0.24-0.85) was higher in patients with MP. There were no statistically significant difference between either BP or MP patients for valve thrombosis (RR=0.66; CI95%;0.11-3.91), thromboembolism (RR=1.16; CI95%; 0.82-1.64) or bleeding (RR=0.76; CI95%; 0.54-1.07).

Conclusion: EuroScore II lacks performance to predict early results after conventional AVR in octogenarian patients. Like with all other risk-scores, the additional consideration of frailty and vulnerability are mandatory to assess operative risk in a geriatric population.
Conclusions: This meta-analysis did not show any differences in long-term morality rates, thromboembolic events, or hemorrhage between BP and MP patients after 20 years of follow-up. However, MP was associated with lower risks of all other outcomes, except paravalvular leak.

P2123 | BEDSIDE
Prosthetic heart valve thrombosis as a source of coronary embolism: a novel strategy in the management of acute coronary syndrome (the Tria-core trial)
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Purpose: Coronary Embolism (CE) is a rare cause of myocardial infarction. The information regarding Acute Coronary Syndromes (ACS) in patients with Prosthetic Heart Valves (PHV) are mainly based on case reports. The aim of the study was to investigate the clinical characteristics, treatment and outcomes of ACS in patients with PHV.

Methods: This single center, prospective study is the subgroup of TROIa trial. The patients with history of PHV and ACS between 2004-2021 constituted the study population. ACS was defined according to presence of ischemic symptoms, electrocardiographic changes and cardiac biomarkers. The criteria in favor of CE rather than de novo ACS included normal coronary angiographic findings, International Normalized Ratio (INR) < 2, PHV thrombosis (PHV) and visible thrombus on Transthoracic Echocardiography (TTE). The CE was delineated using a bi-plane model. Simultaneously, radial and pulmonary artery saturation was performed in patients which aortic PHVT was considered to be the source of CE. All patients with aortic PHVT underwent coronary angiography after successful TT. CT was combined with percutaneous coronary intervention (PCI) in patients with mitral PHVT.

Results: This study was comprised of 45 patients (mean age 39±12). Twenty four patients (53%) had mitral, 11 patients (24%) had mitral and aortic and 1 patient had mitral, aortic and tricuspid prosthesis. Twenty five patients had nonobstructive and 14 patients had obstructive PHVT. The mean INR value on admission was 1.65±0.8. Thirty one patients had Non-ST-Stage Elevation Myocardial Infarction (NSTEMI) (69%) and 14 patients (31%) had ST-segment elevation ACS. TEE revealed PHVT in 39 patients (Mitra 22, Aortic 12, Mitral and Aortic 5). Coronary angiography was performed in 22 patients with mitral PHVT and coronary artery thrombus was revealed in 19 of them. Thromboclodosis was responsible for the development of ACS in 7 patients who were successfully treated with PCI whereas PHVT was the source of CE in the remaining 38 patients. TT was successful in all patients (100%) with PHVT and in 92% of the patients with coronary artery thrombosis.

Conclusion: The pathogenesis of ACS in patients with PHV were mostly related to CE and were associated with mitral PHVT, NSTE-ACS and nonobstructive thrombosis. Low-dose slow infusion of IPA provides effective and safe thrombolysis for PHVT and coronary artery thrombosis.

CONGENITAL HEART DISEASE: MISCELLANEOUS

P2123 | BEDSIDE
Infective endocarditis in adults with congenital heart disease: still a potentially lethal disease
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Purpose: Infective endocarditis (IE) is associated with significant morbidity and mortality. Adults with congenital heart disease (ACHD) have an increased risk for developing IE. The aim of this study is to describe the incidence, predictors of outcome, and the mortality associated with IE in ACHD in a contemporary cohort.

Methods: A retrospective study referring to our tertiary center between 1999 and 2012 were included into this study.

Results: There were 109 episodes of IE in 94 patients (female n=38 [34.9%], mean age 35.3±12.6 years). According to the severity of the underlying congenital heart defect, 37.6% had a simple, 21.1% a moderate, and 41.3% a complex defect. It was at least the second bout of IE in 32 cases (29.4%). In only 26.6% of cases mitral PHVT was formed in patients which aortic PHVT was considered to be the source of CE.

Conclusion: IE remains high and showed no decline compared to previous studies. Therefore, IE remains a potentially lethal condition in ACHD.

P2126 | BEDSIDE
Sildenafil improves exercise hemodynamics in Fontan patients
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Background: Reduced preload reserve is a fundamental limitation of the Fontan circulation. Sildenafil may increase exercise capacity in patients with Fontan physiology, but the underlying mechanism is still unclear. Using a novel exercise cardiac magnetic resonance (CMR) methodology, we tested the hypothesis that sildenafil would improve exercise hemodynamics in Fontan patients.

Methods: Ten Fontan patients (6 male, age 20±4 years) underwent CMR at rest and during supine exercise on a programmable cycle ergometer before (“baseline”) and after a single dose of sildenafil (50 mg oral). Systemic ventricular volumes were obtained at rest and during mild (104±11 bpm, moderate (127±16 bpm) and high intensity (147±15 bpm) exercise. Bi-plane cine images were acquired using an ungated, free-breathing real-time CMR sequence (12-18 contiguous millimeter slice thickness developed enabling retrospective gating for cardiac phase and respiratory translation). Endocardial borders were delineated using a bi-plane model. Simultaneously, radial and pulmonary artery saturation was measured.

Results: Under resting conditions as compared with baseline, sildenafil reduced PAPs (3.9±3.2 vs 3.3±1 mmHg, P<0.029) and increased heart rate (72±14 to 82±13 bpm, P=0.01) and cardiac output (6.1±1.6 to 8.1±2.1 L/min, P<0.005). Total pulmonary resistance (TPR) (1.49±0.86 to 1.13±0.66 mmHg.ml.min.L, P=0.010) and systemic vascular resistance (SVR) (11.05±2.43 to 8.65±1.90 mmHg.ml.min.L, P<0.001) decreased. During exercise sildenafil resulted in improved hemodynamics. PAPs (mean difference −1.0±0.7 mmHg, P<0.010) and mean arterial pressures (mean difference −7.1±1.5 mmHg, P<0.0001) decreased, whilst cardiac output (mean difference +1.4±0.7 L/min, P<0.001), ejection fraction (mean difference +4.6±2.5%, P<0.001) and stroke volume (mean difference +8.7±4.8 ml, P<0.012) all increased. TPR (mean difference −0.34±0.21 mmHg.ml.min.L, P<0.004) and SVR (mean difference −1.38±0.28 mmHg.ml.min.L, P<0.001) decreased.

The decrease in SVR between exercise stages was similar before and after sildenafil (interaction P=0.137). However, in contrast to the increase in TPR before sildenafil, TPR did not increase between stages after sildenafil (interaction P<0.033).

Conclusion: In patients with Fontan physiology, sildenafil improved cardiac output with exercise which is presumably related an improved response of the pulmonary vasculature, especially during exercise. This implies that pulmonary vasodilation is a potential physiological target for improving exercise hemodynamics, the clinical significance of which warrants further study.

P2127 | BEDSIDE
Self-navigated free-breathing isotropic 3D whole heart MRI for the characterization of complex cardiac anatomy in patients with congenital heart malformations
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Introduction: Cardiac anatomy of patients with congenital heart disease (CHD) is often complex and accurate evaluation mandates MRI image acquisition in several non-standardized planes requiring considerable operator involvement and multiple breath-holds. The utility of self-navigated isotropic 3D-free-breathing whole-heart MRI (SN-3D) was assessed for the visualization of the heart, coronary arteries (CA) and great vessels (GV) in CHD patients.

Methods: Data acquisition was performed during free breathing on a 1.5T MRI scanner with a 3-D dual channel coil for respiratory and navigator signal. Image quality was good in 23, moderate in 10, mediocre in 2, and poor in 3.

Results: There were 38 patients (66% male, age 23±10 years) were included. Heart rate was 71±13 bpm, scan duration 9.1±4.2 min, isotropic resolution 1.1×1.1×1.1 mm³. Image quality was good in 23, moderate in 10, mediocre in 2, and poor in 3. Image data were reformatted offline. Image quality was graded and GV diameters were measured at several levels in all patients. 3D MR-angiography (MRA) was performed in a subset of patients and the GV diameters were also measured for comparison.

Results: 38 patients (66% male, age 23±10 years) were included. Heart rate was 71±13 bpm, scan duration 9.1±4.2 min, isotropic resolution 1.1×1.1×1.1 mm³. Image quality was good in 23, moderate in 10, mediocre in 2, and poor in 3. 3D datasets allowed the assessment of the arrangement of heart chambers and great vessels, the venous return anatomy after atrial switch for transposition of the great arteries (TGA), the morphology of caudo-pulmonary connections after the Fontan operation, the morphology of the pulmonary arteries in tetralogy of Fallot or morphology of the great vessels after arterial switch for TGA. GV diameters with SN-3D were accurate using conventional MRA as the gold standard (n=25, r=0.91, bias 0.1±2.2 mm), with a low intra- and inter-observer variability (3.7%