sis (MS) are evolving from predominantly rheumatic to a mix of rheumatic, post-surgical and degenerative in the western world. In a contemporary group of patients with ≥moderate MS undergoing rest and treadmill stress echocardiography (TSE), we sought to assess their characteristics and longer-term outcomes.
Methods: We studied 515 consecutive (asymptomatic/ atypical symptoms with normal left ventricular ejection fraction) patients (60±14; 43% male) with ≥moderate MS (mean gradient >5 mmHg at rest, excluding hypertrophic cardiomyopathy and subaortic membrane) who underwent rest and TSE between 1/2003 and 12/2013. MS was categorized as rheumatic, post-surgical (prior mitral repair/replacement), and degenerative (mitral annular calcification). Clinical, resting and TSE data were recorded. Primary outcome was all-cause mortality.
Results: Relevant clinical and echo data are shown in Figure A. Following TSE at a median of 54 days, 224 (44%) underwent invasive mitral procedure (22 valvuloplasties). At 6±4 years, 76 (15%) died. On multivariable Cox Survival Analysis, degenerative MS (vs. rheumatic and/or post-surgical (Hazard ratio or HR 4.92), Society of Thoracic Surgeons score (HR 1.92), % age-gender predicted metabolic equivalents (AGP-METs) achieved (HR 1.22), post stress right ventricular systolic pressure or RVSP (HR 1.35), were associated with higher mortality, while post-TSE invasive mitral procedures was associated with improved survival (HR 0.47, all p<0.01). Post stress mean mitral gradient (HR 1.01, p=0.66) was not associated with survival. Kaplan-Meier curves showing differences in survival between various etiologies of MS are shown in Figure B.

A

Variable	N=515
Age (years)	60±14
Female gender	295 (57%)
Atrial fibrillation	225 (44%)
Obstructive coronary artery disease	29 (6 %)
Society of Thoracic Surgery score	2.82±3
Left ventricular ejection fraction (%)	58±5
Peak mitral gradient at rest (mm Hg) Mean mitral gradient at rest (mm Hg)	19±6 8.5±3
Mechanism of mitral stenosis Rheumatic Prosthetic dysfunction (s/p mitral valve repair/replacement Degenerative (mitral annular calcification)	 170 (33%) 245 (48%) 100 (19%)
≥ moderate mitral regurgitation	148 (29%)
Resting right ventricular systolic pressure (RVSP, mm Hg)	39±13
Maximum metabolic equivalents (METs)	7.1±2
% age-gender predicted METs achieved	95±29
< 100% age-gender predicted METs achieved	305 (59%)
Post-stress RVSP	61±14
Peak-stress mean mitral gradient	17±7

B

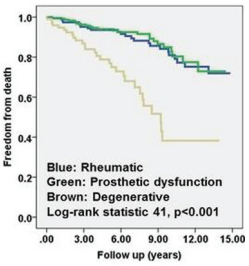

Figure 1

Conclusions: In a contemporary group of MS patients undergoing rest and TSE at a tertiary North American Center, majority are post-surgical. Higher mortality was associated with degenerative MS, lower % AGP-METs achieved, higher post stress peak RVSP, while invasive MV procedures to relieve MS, following TSE was associated with improved survival.

P5451
Pregnancy and heart valve prostheses: maternal and fetal outcomes. comparative study

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Background: The choice of prosthetic valve for women of childbearing age is a constant dilemma. During pregnancy, intrinsic problems of anticoagulation in mechanical prosthesis (MPV) and valve dysfunction consequences in bioprosthetic valve (BPV), both cause a substantial maternal and fetal risks.
Objectives: To assess the clinical course of women with valve prostheses during pregnancy and identify possible prognosis factors.
Methods: We followed consecutively 260 pregnant women with valve prosthesis who were included in InCor- Registry of Pregnancy and Heart Disease. Among of them 176 patients (pts) (mean age of 30.9±4.4 years) had BPV and 84 pts (mean age of 26.7±4.4 years) had MPV. Time from valve replacement to pregnancy was 5.6±3.5 years in PBV pts and 8.7±5.5 years in MPVpts. Rheumatic etiology was identified in 61 (74.3%) pts in PBV pts and 29 (59.2%) in MPV pts. During gestation the maternal events studied were: congestive heart failure (HF); thromboembolism;(Thromb); infective endocarditis (IE); prosthesis dysfunction, valve reoperation and maternal death. Routine recommendations during pre-natal care included serial clinical and echodopplercardiogram analyses and substitution of warfarin by unfractioned heparin or dose-ajusted low-molecular-weight heparin during the first trimester and after 36 weeks of gestation for MPV pts, including hospitalization to plan the delivery
Results: 160 (57.7%) pregnancies had an uneventful maternal and fetal courses (58.3% BPV and 46.9% MPV). The cardiac events were exposed in Table 1.
All of six maternal deaths were associated to prosthesis dysfunction. Among of 222 (85.4%) alive newborns there were four fetal malformations: two babies with neurological damage from mother who suffered BPV reoperation and another two with warfarin embryopathy in MPV group. Maternal and fetal successfull rate was not different between BPV and MPV (58.3% vs 46.9%) groups however the incidence of HF and prosthesis dysfunction were higher (p<0.02) in BPV pts while Thromb was higher (p<0.02) in MPV pts.

Table 1. Maternal cardiac events

n (%)	HF	IE	Thromb	Dysfunction	Reoperation	Maternal death
BPV (176 pts)	31* (17.6)	4 (2.8)	2 (1.1)	31* (17.6)	16 (9.1)	5 (2.8)
MPV (84 pts)	6 (7.1)	1 (1.2)	8* (9.5)	5 (5.9)	4 (4.8)	1 (1.2)

*p<0.05. HF: Heart failure; IE: Infective endocardites; Thromb: Throamboembolism; BPV: Bioprosthetic valve: MPV: Mechanical prosthesis valve.

Conclusions: In actuality, pregnancy implies high risk for both prosthesis types. Structural dysfunction of PBV and lack of optimal anticoagulation to MPV were the determinant factors of maternal and fetal outcomes.

P5452
Pregnancy risk in women with severe aortic stenosis

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Background: Contemporary data (e.g. ROPAC multicenter registry) on maternal outcome in severe aortic stenosis (AS) show that morbidity rather then mortality is the major issue during pregnancy.
Objective: To identify risk factors for morbidity in pregnant women with severe AS.
Method: We selected 14 pregnancies in women with severe valvular or subvalvular AS (peak gradient ≥64 mm Hg) from our pregnancy register (one center, prospectively collected data). Baseline clinical data, maternal cardiovascular (CV), obstetrical and fetal/neonatal events during pregnancy and postpartum (up to one-year post-delivery) were documented.
Results: We identified 14 women with severe AS, maternal age was 28±3 years. At baseline, 3 (21%) women were symptomatic (NYHA class > I). Overall, the peak aortic gradient was 80±9 mm Hg. No maternal death occurred during the follow-up period. Four women (28%) at the end of the 2nd trimester were hospitalized, two of them for cardiac events (progression of NYHA class, n=1, and arrhythmia, n=1). Two women had a miscarriage, one of them required aortic valve surgery 2 months later for progression in NYHA class. In the remaining 12 women, cesarean section was performed at a mean pregnancy duration of 36±3 weeks. Fetal events other then miscarriage included: premature birth with intrauterine growth retardation (n=4, 33%), and cardiac anomaly (n=2, 17%). Baseline NYHA class was associated with higher rate of maternal cardiac events (r=0,63; p=0,03) however, there was no correlation with peak gradient across the aortic valve. Both parameters, baseline NYHA class and peak aortic gradient showed strong association with fetal events (r=0,78; p=0,01 and r=0,70; p=0,05).
Conclusions: Symptomatic women with severe aortic stenosis are at risk for cardiac events during pregnancy however, mortality remains zero. On the other hand, premature birth with intrauterine growth retardation seems to be related not only to maternal symptoms but also with the severity of peak gradient across the aortic valve. Our data are in concordance with ROPAC multicentre registry data.

P5453
Increased perinterventional risk for patients with severe aortic stenosis and coexisting pulmonary hypertension treated by transfemoral aortic valve implantation

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Background: In patients with severe aortic valve stenosis (AS) and increased perioperative risk, transcatheter aortic valve implantation (TAVI) is known to be a favourable treatment. Coexistence of pulmonary hypertension (PH) is associated with a poor outcome in general. It is though not known whether this applies for a pure transfemoral cohort.
Purpose: Evaluation whether TF-TAVI is a safe and effective procedure in patients with severe AS and coexisting PH.
Methods: We performed a single center retrospective analysis in 606 patients with severe AS with or without coexisting PH. PH was defined as the middle pulmonary arterial pressure ≥25mmHgmeasured in the pre-interventional right heart catheterisation (RHC). 103 patients with inadequate RHC data and 17 patients with missing 30-day-mortality data were excluded from the study. The remaining 486 patients were divided in two groups based on existence (AS+PH: n=311) or absence (AS-PH: n=175) of PH. 30-day mortality, length of stay, complications and short-term outcome were analyzed according to Valve Academic Research Consortium-2 (VARC II) criteria.
Results: Comparing baseline characteristics, log. Euroscore I was as expected higher in patients with PH (28.5±18.8 vs. 20.0±12.8; p<0.0001). Furthermore AS+PH patients received more often aP2Y12antagonist (33.7% vs. 23.4%; p=0.018) and oral anticoagulation (39.5% vs. 22.3%; p<0.0001) pre-interventionally. The AS+PH group was documented with significantly more events of previous cardiac decompensation (30.5% vs. 16.6%; p<0.001)and myocardial infarction (19.6% vs. 16.6%; p=0.044) as compared to AS-PH group respectively. After TF-TAVI both groups showed comparable rates of 30-