adjusted HR 2.14 [95% CI 1.59-2.84], P < 0.0001). In addition, cumulative incidence of late TLR (1-year to 5-year) was also significantly higher in patients with ostial RCA lesions than in those with non-ostial proximal RCA lesions (13.0% versus 8.1%, P = 0.006; adjusted HR 1.58 [95% CI 1.06-2.36], P = 0.02). Multivariable analysis identified several independent risk factors for TLR of ostial RCA lesions: hemodialysis, severe calcification, target of in-stent restenosis and small vessel diameter (<2.5 mm) for early TLR and body mass index (>25.0) and chronic total occlusion for late TLR.

Conclusions: SES implantation for ostial RCA lesions was associated with a high restenosis rate as compared with those for non-ostial proximal RCA lesions. In terms of efficacy, PCI for ostial RCA lesions are still challenging in the DES era.

P3986 | BENCH
Renal function and outcome in patients with stable coronary artery disease undergoing coronary angiography. Data from 6 years of consecutive patients in a nationwide registry

R. Edfors1, K. Szummer1, M. Evans2, J.-J. Carrero-Roig3, J. Spaak4, S.J. James5, B. Lagerqvist5, T. Jernberg1. 1Karolinska Institut & Dept. of Cardiology, Karolinska University Hospital, Department of Medicine, Stockholm, Sweden; 2Division of Renal Medicine, Department of Clinical Science Intervention and Technology, Karolinska U, Stockholm, Sweden; 3Karolinska University Hospital, Department of Molecular Medicine & Surgery, Stockholm, Sweden; 4Karolinska Institute, Danderyd Hospital, Department of Cardiology, Stockholm, Sweden; 5Uppsala University Hospital, Department of Medical Sciences, Cardiology, Uppsala, Sweden

Objectives: The aim of this study was to investigate the impact of renal function on long-term prognosis in patients with stable angina pectoris undergoing coronary angiography (CA).

Background: There is limited data from large studies concerning the prognosis of untreated patients with stable coronary artery disease (CAD) and reduced kidney function undergoing CA.

Methods: Patients with an available creatinine level undergoing CA for stable angina pectoris registered in SWEDHEART/SCAAR (Swedish Coronary Angiography and Angioplasty Registry) between January 2005 and December 2010 were included. Estimated glomerular function (eGFR) was obtained using the Chronic Kidney Disease Epidemiology Collaboration formula (CKDEPI). The primary composite endpoint was myocardial infarction (MI) or death.

Results: 45348 patients with stable angina pectoris undergoing coronary angiography were studied. With continuously poorer renal function patients were older, had more diabetes, hypertension and had more left main or 3-vessel disease (not shown). The median iGFR follow up time was 2.6 (1.2-4.1) years. With decreasing renal function the rate of death and MI increased (figure). A multivariate analysis adjusting for age, gender, comorbidities, severity of CAD and revascularization (time dependent covariate) was conducted. Compared to patients with an eGFR ~90 ml/min, patients with eGFR 60-90, 30-60, 15-30 and <15 ml/min had a hazard ratio [HR: 95% confidence interval] of 0.91 (0.84-1.00); 1.25 (1.12-1.39); 1.82 (1.45-2.27) and 4.48 (3.68-5.45), respectively.

Conclusion: Reduced renal function is a strong predictor of worse outcome in patients with stable CAD undergoing CA. There is a great need for further research how to improve outcome in patients with renal dysfunction and stable CAD.

P3987 | BENCH
Myocardial strain analysis by 2-dimensional speckle tracking echocardiography improves diagnostics of coronary artery stenosis in stable angina pectoris

T. Biering-Sorensen, S. Hoffmann, R. Mogelvang, A.Z. Iversen, S. Galatius, T. Fritz-Hansen, J. Bech, J.S. Jersøe. Gentofte Hospital, Department of Cardiology, Faculty of Health Sciences, University of Copenhagen., Copenhagen, Denmark

Purpose: To determine if 2-Dimensional Strain Echocardiography (2DSE) performed at rest in patients with suspected Stable Angina Pectoris (SAP) is able to improve the diagnosis of the presence of significant Coronary Artery Disease (CAD).

Methods: In total 296 consecutive patients with clinically suspected SAP, no previous cardiac history and a normal ejection fraction were included. All patients were examined by 2DSE, Exercise Electrocardiogram (ECG) and coronary angiography. 2DSE was performed in the three apical projections. Peak Regional Longitudinal Systolic strain (RLS) was measured in 18 myocardial sites and averaged to provide Global Longitudinal Systolic strain (GLS). Duke Score (DS), including ST-depression, chest pain and exercise capacity, was used as the outcome of the exercise ECG.

Results: Patients with an area stenosis >70% in at least one epicardial coronary artery were categorized as having significant CAD (n=108). GLS was significantly lower in patients with CAD compared to patients without CAD (17.1% vs. 18.8%, p <0.001), and remained an independent predictor of CAD after multivariable adjustment for baseline data, exercise ECG and conventional echocardiographic parameters (OR 1.17 (1.0-1.3, p=0.012) per 1% decrease). Area under receiver operating characteristics curve (AUC) for exercise ECG and GLS in combination was significantly higher than AUC for exercise ECG alone (0.84 vs. 0.74).

Abstract P3987 – Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Exercise Testing (%)</th>
<th>Myocardial Perfusion Scan (%)</th>
<th>Dobutamine Stress Echo (%)</th>
<th>MRA (%)</th>
<th>Angiogram (%)</th>
<th>CT Angiogram (%)</th>
<th>CT Calcium Scoring (%)</th>
<th>Mean Number of tests per patient</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>47.6</td>
<td>N/A</td>
<td>N/A</td>
<td>20.0</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.10</td>
<td>378</td>
</tr>
<tr>
<td>2005</td>
<td>29.3</td>
<td>50.8</td>
<td>N/A</td>
<td>19.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.00</td>
<td>437</td>
</tr>
<tr>
<td>2006</td>
<td>29.4</td>
<td>55.5</td>
<td>N/A</td>
<td>17.8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.00</td>
<td>472</td>
</tr>
<tr>
<td>2007</td>
<td>30.8</td>
<td>50.7</td>
<td>N/A</td>
<td>17.8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.99</td>
<td>600</td>
</tr>
<tr>
<td>2008</td>
<td>29.3</td>
<td>54.7</td>
<td>N/A</td>
<td>15.9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.00</td>
<td>618</td>
</tr>
<tr>
<td>2009</td>
<td>17.0</td>
<td>51.3</td>
<td>16.4</td>
<td>0.1</td>
<td>7.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.92</td>
<td>684</td>
</tr>
<tr>
<td>2010 post-CG95</td>
<td>6.9</td>
<td>44.7</td>
<td>9.1</td>
<td>0.3</td>
<td>7.2</td>
<td>0.6</td>
<td>5.0</td>
<td>0.74</td>
<td>318</td>
</tr>
<tr>
<td>2011</td>
<td>7.4</td>
<td>51.3</td>
<td>16.4</td>
<td>0.1</td>
<td>7.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.92</td>
<td>643</td>
</tr>
<tr>
<td>2012</td>
<td>3.1</td>
<td>37.6</td>
<td>7.1</td>
<td>3.1</td>
<td>10.9</td>
<td>6.0</td>
<td>6.7</td>
<td>0.74</td>
<td>651</td>
</tr>
</tbody>
</table>
0.78, *p* < 0.004). Furthermore, RLS predicted significant stenosis in corresponding coronary arteries (Figure 1).

Conclusion: In patients with suspected SAP GLS at rest is an independent predictor of significant coronary artery disease and significantly improves the diagnostic performance of exercise ECG. Additionally, RLS can identify which coronary artery that suffers from significant stenosis.

### P3990 | BEDSIDE

**Saphenous vein graft intervention versus percutaneous coronary intervention for the native coronary artery in patients with prior coronary artery bypass grafting**

K. Yamaji¹, T. Kimura², M. Nobuyoshi¹ on behalf of j-Cypher Registry. ¹Kokura Memorial Hospital, Kitakyushu, Japan; ²Kyoto University Graduate School of Medicine, Kyoto, Japan

**Purpose:** PCI in patients with prior CABG was still challenging for lesions with saphenous vein grafts (SVG). The clinical outcomes following PCI for prior CABG patients were not fully elucidated.

**Methods:** We conducted a post-hoc subgroup analysis of 5-year follow-up data of j-Cypher Registry. Of the 19121 patients (18662 lesions) who treated with at least one SES, 919 patients (7.2%) with 1369 lesions (7.0%) had a history of CABG. Among patients with a history of CABG, 26 patients who underwent PCI for at least one arterial graft were excluded for the analysis. The current study population comprised of remaining 122 patients who underwent PCI for at least one saphenous vein graft (SVG group) and 711 patients who underwent PCI for the native coronary artery (Native group).

**Results:** Patients characteristics were similar between patients in the SVG group and those in the Native group except for the prevalence of acute coronary syndrome presentation (32 [28.2%] versus 118 [15.3%], *p* = 0.003). Median follow-up interval for the surviving patients was 1699 days (interquartile range, 1184–1928 days). Cumulative incidence of death at 5 years were significantly higher in patients in the SVG group as compared with those in the Native group (27.8% versus 18.1%, *p* = 0.01). Adjusted mortality also tended to be higher in patients in the SVG group (adjusted HR 1.49 [0.96–2.23], *p* = 0.07) than those in the native group, while adjusted risks of myocardial infarction (MI, adjusted HR 2.56 [1.10–5.60], *p* = 0.03), target lesion revascularization (TLR, adjusted HR 2.64 [1.81–3.80], *p* < 0.001), and definite stent thrombosis (ST, adjusted HR 7.89 [2.02–30.1], *p* = 0.004) were significantly higher in patients in the SVG group as compared with those in the Native group, respectively.

**Conclusions:** Among patients with prior CABG, SVG intervention was associated with a trend for higher mortality and with significantly higher risks of MI, TLR and definite ST as compared with those who underwent PCI for the native coronary artery.

### P3991 | BEDSIDE

**Dispersion of regional longitudinal strain and strain rate in nonischemic left ventricular segments: insights from speckle tracking Dobutamine Stress Echocardiography (DSE)**

K. Wierzbowska-Drabik, N. Roszczyk, M. Sobczak, M. Płewka, R. Krecki, J.D. Kasprzak, Medical University, Lodz, Poland

**Background:** The measurement of deformation parameters - Strain (S) and Strain Rate (SR) - allows the quantitative analysis of myocardial function. There is still a paucity of data concerning regional deformation during Dobutamine Stress Echocardiography (DSE) and little is known about potential differences of basal, midventricular and apical segments of the Left Ventriicle (LV).

**Aim:** Our aim was to assess regional values of longitudinal S and SR in 18 segments of LV during baseline and peak stage of DSE and change of these parameters between baseline and peak using Speckle Tracking Echocardiographic quantification (STE) and Automated Function Imaging (AFI).

**Methods:** 238 patients were examined by DSE with acquisition of high temporal resolution data. The whole group had the coronary anatomy status established by angiography or computed tomography. A subset of 111 patients without significant coronary lesions was selected for this analysis: 68 female, mean age 60±10 years.

**Results:** The significant dispersion of strain values among the LV segments (measured both by AFI and STE and confirmed by ANOVA, *p* < 0.0001) was observed during baseline and peak stage of DSE. The comparison of changes in strain between peak and baseline stage showed reduction in strain amplitude of basal and mid-ventricular segments and increased amplitude of strain in apical tension, diabetes, hemoglobin, renal function (GFR), use of β-blockers and ACE inhibitors, left ventricular ejection fraction, NYHA class, and results of coronary angiography as independent predictors of hsTnT. The five variables with highest strength of association with levels of hsTnT were age, sex, renal function, left ventricular ejection fraction, and results of coronary angiography.

**Conclusion:** Levels of hsTnT are significantly associated with multiple clinical and laboratory variables. Age, sex, and renal function show the highest strength of association with levels of hsTnT.