P5161 | BENCH
Framingham risk score and cardiovascular risk profiles in HIV+ patients and HIV- controls differ by sex
N. Reinsch1, S. Eßer2, T. Neumann3, B. Bokhorst4, L. Eiselle5, B. Schwarz1, V. Holtzendorff1, K.H. Jocsett1, D. Schadendorf2, L. Ernstel1 on behalf of the German Heart failure Network. 1West German Heart Center Essen Clinical for Cardiology, Essen, Germany; 2Department of Dermatology and Venereology, University Essen, Essen, Germany; 3University of Duisburg-Essen, Institute for Medical Informatics, Biometry and Epidemiology, Essen, Germany; 4Center for Clinical Trials (KSS), University of Leipzig, Leipzig, Germany

Background: Cardiovascular (CV) diseases are increasing in aging HIV-infected (HIV+)-populations. Frequent CV risk behaviours are encountered in HIV+ -horts, especially smoking. To compare differences in CV risk profile between HIV+ and comparable HIV-negative (HIV-)-populations we analyzed data of two cohort studies from the Ruhr area in Germany.

Methods: The HIV Heart cohort study (HH) is an ongoing prospective observa-
tional study to assess the frequency and clinical course of cardiac disorders in 1421 HIV+ outpatients. The Heinz Niederhof study (HNR) is a population-based on-
going prospective cohort study with 4814 HIV+ participants investigating CV risk
factors in the general population. Both studies take place in the German Ruhr Area. HH study participants were retrospectively matched with HNR controls in a 1:2 ratio with regard to age, sex and cardiovascular risk factors. The Fram-
ingham Risk Score (FRS) was calculated for all participants without previously diagnosed CV diseases. To account for the matching design conditional logis-
tic regression models were calculated to indentify associations between CV risk factors and HIV+ study participants.

Results: After individual matching of 651 HH study participants (87.1% male) with 1302 HNR controls (86.7% male), there was no statistically significant dif-
ference in the FRS in men. FRS was significantly higher in HIV+ women than in HIV- controls (8.0±5.2 vs. 5.7±4.2). However there were differences in single variables of the FRS for both sexes. Systolic (137.1±25.0 vs. 127.3±20.8) and di-
adial blood pressure (84.3±13.1 vs. 78.6±10.0) was only elevated in the HH+ women compared to HNR-controls. Both LDL and HDL were significantly lower in HIV+ individuals. Diabetes mellitus tended to be lower in HIV+ men and increased in HIV+ women. The proportion of HIV+ current smokers was higher than in the HIV-controls (46% vs. 32%). Intake of lipid-lowering medication was significantly more frequent in HIV+ women. The proportion of HIV+ current smokers was higher than in the HIV- controls (46% vs. 32%). Intake of lipid-lowering medication was significantly higher in HIV+ women (16% vs. 7%). No difference for anti-hypertensive med-
ication was found.

Conclusion: HIV+ men showed no difference in FRS compared with HIV- controls. Intensive medical care in HIV+ individuals may improve therapeutically sus-
ceptible CV risk factors. Smoking was more frequent in HIV+ individuals. FRS is increased in HIV+ women compared to HIV- women.

P5161 | BEDSIDE
The implication of surgical parameters as predictors of development of postoperative cardiac event in patients undergoing non-cardiac surgery
M.H. Baes1, J.H. Kim1, S.Y. Jang1, W.S. Choi1, S.H. Park1, J.H. Lee2, D.H. Yang1, H.S. Park1, Y. Cho1, S.C. Chae1. Kyungpook National University Hospital, Daegu, Korea, Republic of

Background: Postoperative cardiac event is important cause of morbidity and mortality in patients undergoing non-cardiac surgery. The role of predictive echocardiography, biomarkers, and clinical risk factors such as Revised Cardiac Risk Index (RCRI) for the risk stratification has been known. However surgical parameters as predictors of development of postoperative cardiac event have not been well investigated yet.

Methods: A total of 1,016 consecutive patients (66.6±12.5; 578 males) who per-
formed cardiac consultation for elective non-cardiac surgery were studied. We evaluated the clinical risk factors including RCRI, echocardiographic and labo-
ratory findings. Surgical data included types of surgery and anesthesia, surgical times, transfusion, and postoperative hemoglobin level. Major adverse cardiac event (MACE) was defined as a composite of all cause death, non-fatal myocar-
dial infarction, and pulmonary edema within 30 days after surgery.

Results: There were 16 (1.6%) postoperative MACEs. Age was significantly older at 73.4±15.4 years in patients with postoperative MACE. Among the surgical parame-
ters, surgical times (317±211 min versus 189±112 min, P<0.001), postoperative hemoglobin (10.7±1.9 g/dl versus 11.3±1.8 g/dl, P=0.007), the risk of surgery (P=0.001) and transfusion (37.6% versus 6.6%, P<0.001) were significantly dif-
ferent between the two groups. In the multivariate logistic regression analysis, surgical times (odds ratio [OR] 1.004, 95% CI 1.003-1.006, P<0.001) and trans-
fusion (OR 4.578, 95% CI 2.599-8.065, P<0.001) were indepen-
dent predictors for postoperative MACE in addition to age and ST-change on ECG.

Conclusion: Surgical parameters, such as surgical times and transfu-
sion, were strong predictors for development of postoperative MACE in patients undergoing non-cardiac surgery.

P5161 | BEDSIDE
Risk factors for venous thromboembolism after birth - a nationwide study
T.B. Jensen1, M.D. Schmiegelow1, C. Overgaard2, C. Nguyen1, S.M. Sollien3, H.H. Holten1, G.H. Gislason4, L. Koebel1, J.B. Ollesen1, J. Steffensen5, L. Koebel1, J.B. Ollesen1, 1Gentofte Hospital - Copenhagen University Hospital, Department of Cardiology, Helleupen, Denmark; 2Aalborg University, Department of Health Science and Technology, Aalborg, Denmark; 3Rigshospitalet - Copenhagen University Hospital, Heart Centre, Department of Cardiology, Copenhagen, Denmark

Purpose: The risk of venous thromboembolism (VTE) is increased during preg-
nancy and 6 weeks following childbirth. We examined risk factors for VTE follow-
ing childbirth with focus on mode of birth, obesity, and age.

Methods: Individual-level linkage of nationwide administrative registers in-
cluded maternal age (at birth), pre-pregnancy body mass index (BMI), smoking (during pregnancy), previous VTE, and mode of delivery.

Results: A total of 299,294 women were included of which 109 (0.04%) expe-
rienced a VTE. Multivariable Cox regression analysis revealed (Figure 1) that the risk of VTE after childbirth is increased significantly in all women who under-
went Caesarean section (before onset of labour) and acute/elective. Only acute caesarean section before labour increased the risk of VTE significantly by HR 3.5 (CI 1.9-6.3) compared to vaginal deliv-
y.

Figure 1. Results of multivariable Cox regression

Conclusions: In a large nationwide cohort of fertile women, acute caesarean section before labour, maternal age >35 years, and being overweight or obese were associated with an increased VTE risk following childbirth. Focus on risk stratification of pregnant women might help identify women at higher risk of VTE after birth.

P5167 | BEDSIDE
Derivation and validation of a risk chart for future ischaemic events and mortality following peripheral bypass surgery
P.P. Wismann1, E.S. Van Hattum1, Y. Van Der Graaf2, G.J. Dr Borst1, M.J.D. Tangelder1, F.L. Mol3, 1University Medical Center Utrecht, Utrechtch, Netherlands; 2University Medical Center Utrecht, Julius Centre for Health Sciences and Primary Care, Utrecht, Netherlands

Purpose: Major cardiovascular events occur frequently in patients with peripheral arterial disease (PAD). A prediction model to identify individuals and quantify the risk of future ischaemic events could provide a personal risk profile to offer individualised patient care. In the present study, we developed and validated a risk chart in patients that underwent infrainguinal bypass surgery.

Methods: The risk chart was derived from and validated in a clinical trial cohort including 2650 patients with severe PAD treated with infrainguinal bypass surgery between 1995-1998. Long-term follow-up data on the composite primary outcome (all causes of death, non-fatal myocardial infarction, or non-fatal ischaemic stroke) were collected from 1995 until 2009 in a subset of 482 patients, the devel-
oment cohort. Data were obtained from hospital records, general practitioners, direct contact with patients or family. Determinants and the long-term risk of the primary outcome event were identified with multivariate Cox regression analyses. Validation of the risk chart was performed in the remaining 2168 of patients of the complete clinical trial cohort, the validation cohort. The 10-year follow-up data of the validation cohort were completed by consulting the National Death Registry and the National Registry of Hospital Discharge Diagnoses.

Results: The follow-up data of the development cohort were complete in 454 of the 482 patients (94%) and in 2683 of 2168 patients in the validation cohort (96%). The primary outcome event occurred in 321 (66.6%) patients in the de-
volution cohort during a median follow-up of 6.6 years and in 1371 (65.8%) patients in the validation cohort during a median follow-up of 6.6 years. Determi-
nents included in the risk chart were age, critical limb ischaemia, diabetes, and a prior vascular intervention. The overall performance of the risk chart was fair with a Brier score of 0.19. ROC analysis showed good discriminatory performance of the risk chart with an area under the curve of 73%. The Hosmer-Lemeshow statistic (chi-squared 13.56; p=0.851) in combination with the calibration curve showed a good calibration of the risk chart.

Conclusions: Our risk chart proves to be a valid tool for the prediction of mortality and major cardiovascular events in patients after bypass surgery and may serve as a tool for individualised care of patients with severe PAD.

PS156 | SPOTLIGHT 2013
Cardiovascular function and comorbidities in elderly subjects with COPD
P. Valerio, M. Ferrari, S. Rainer, A. Albiero, A. Fratta Passini, L. Comincini. University of Verona, Department of Medicine, Section of Internal Medicine D, Verona, Italy

Purpose: The mechanisms underlying pathogenetic interactions between chronic obstructive pulmonary disease (COPD) and cardiovascular disease (CVD) are largely unknown despite a clinical mutual association in causing mor- tality and morbidity. Besides smoking, obesity and systemic inflammation share the CV events underlying being causative factors for both CVD and COPD.

The present study aims to investigate, in an unselected, community-dwelling, el- derly population, possible relationships between lung and cardiovascular impair- ments.

Methods: A screening questionnaire was administered to 500 subjects aged from 65 to 84 years, randomly selected from the general population of Verona. All contributing patients underwent conventional1 cardiac pulmonary function tests and a di- agnostic cardiovascular study (Echocardiography, carotid Eco-Color-Doppler and Ankle-Brachial-Index). Blood pressure (BP), body mass index (BMI) and biochem- ical markers were documented. Participation rate was calculated.

Results: COPD vs non-COPD patients differ for age (mean age: 70 vs 67 ys) but not for BP (mean: 130/80 vs 130/82 mmHg), BMI (mean: 28 vs 27 g/m2), total cholesterol (mean: 102 vs 220 mg/dL) and glycemia (mean: 102 vs 97 mg/dL). In COPD patients, BP, body mass index and serum albumin were associated with the first second (FEV1) was linearly re- lated to reductions in left ventricular end-diastolic volume (p < 0.05) and stroke vol- ume (p < 0.05) but not with ejection fraction. Left ventricular mass is related to p02 value (p < 0.001). COPD patients related to control patients present: pathological Intima-Media-Thickness (mean: 0.12 vs 0.08 cm, p < 0.001) and ABI (mean: 0.87 vs 1.05, p < 0.001), a greater extension of atherosclerotic burden (mean number of carotid plaque: 2.5 vs 1.2) and higher level of plaque calcification.

Conclusions: Magnitude of changes in the cardiac structure and function is re- lated to the severity of COPD. COPD patients show a great prevalence of periph- eral vasculopathy and a typical pattern of cardiac and vascular remodelling that expose them to high cardiovascular risk. In particular the mechanical reduction of cardiac outflow linked to hyperinflation state, vascular tone regulation and stiff- ness due to O2 blood pressure variation and the great atherosclerotic tendency have to be taken into account in the evaluation of COPD patients.

PS156 | BEDSIDE
Inflammatory markers and the risk of vascular complications and mortality in type 2 diabetes mellitus
G.S. Hillis1, G. Love2, M. Woodward1, A. Rumley1, S. Harrap1, M. Marre1, P. Harries1, A. Patel1, N. Poulter1, J. Chalmers1, 1George Institute for International Health, Sydney, Australia; 2University of Glasgow, Institute of Cardiovascular and Medical Sciences, Glasgow, United Kingdom; 3The University of Melbourne, Melbourne, Australia; 4AP-HP - Hospital Bichat-Claude Bernard, University Paris 7, Clinical Research Unit, Paris, France; 5Hospital Center of University of Montreal, Montreal, Canada; 6Imperial College London, St Mary’s Hospital, London, United Kingdom

Purpose: There are few data assessing the relationship between circulating lev- els of C-reactive protein (CRP), fibrinogen, and interleukin-6 (IL-6) and the risk of vascular complications in individuals with type 2 diabetes mellitus (T2DM). We studied the associations between these inflammatory markers and the risk of major CV events (CV death, myocardial infarction or stroke), major microvascular com- plications and death in patients T2DM who participated in the Action in Diabetes and Vascular Disease: Preterax and Diamicron Modified Release Controlled Eval- uation (ADVANCE) trial.

Methods: Baseline high sensitivity CRP, fibrinogen and IL-6 levels were deter- mined in a case-cohort study (n=3,865), nested within the ADVANCE trial.

Results: During 5 years of follow-up, 709 patients suffered a major CV event, 439 a microvascular complication and 706 died. All 3 markers were associated with an increased risk of CV event and deaths in analyses adjusting for age, sex and treatment groups. After further adjustment, for other potential confounders and for each other, only IL-6 was an independent predictor of these outcomes (hazard ratio [HR] for CV events 1.37 per 1 standard deviation [SD] increase in log IL-6, 95% confidence interval [CI] 1.24-1.51; HR for death 1.35, 95% CI 1.23-1.49). This increased hazard was seen in patients with and without prior CV disease (figure, HR per 1 SD increase in log IL-6). IL-6 significantly improved the prediction of CV events and death using reclassification statistics (net re- classification improvement in continuous models 23% for CV events and 30% for death). After adjustment, none of the markers predicted microvascular complica- tions.

Conclusions: IL-6, but not CRP or fibrinogen, levels add significantly to the pre- diction of CV events and mortality in individuals with T2DM.

PS157 | BEDSIDE
The prevalence of non-fatal adverse cardiovascular events among patients with multiple abnormalities of connective tissue: 7-year follow-up
I. Druk1, G. Nechaeva1, V. Smijalovski2, E. Lajkova1, D. Smijalovski1, M. Vershinina1, I. Viktortova1, D. Kisleva1, O. Drokina1, 1Omsk Medical Academy, Omsk, Russian Federation; 2Omsk Clinical diagnostic center, Omsk, Russian Federation; 3Omsk Regional hospital, Omsk, Russian Federation

Purpose: Hereeditary connective tissue diseases (Marfan syndrome, Ehlers Dan- los syndrome, Loeys-Dietz syndrome, osteogenesis imperfecta and ecc.) are risk factors of aortic aneurysm/dissease, intramural hematoma, type a or b athero- senic cardiac death. We aimed to investigate the incidence of non-fatal adverse cardiovascular events among young patients with multiple connective tissue ab- normalities (patients with no signs of family history and known history of hereditary syndromes).

Methods: A total of 547 relevant patients observed in the course of 7 years (mean age 28,9±9,7y, 39,5% female). The most frequent connective tissue abnormalities were presented the following characteristics: dilorticohstenolemia (31.44%), flat feet (40,22%), hyper-flexible joints (24,31%), deformities of the spine (77,15%), deformity of the anterior wall of the chest (38,21%), weak muscle tone (33.26%), skin abnormalities (43,14%), mitral, aortic or tricuspid valve pro- lapse (46.43%), viscerostrophy (22.67%), dilation of ascending aorta or pulmonary artery (8.98%), primary spontaneous pneumothorax (21.02%), congenital malfor- mations (45.7%).

Results: Non-fatal adverse cardiovascular events were registered in 25.57% cases during the observation period: arhythmia including lone atrial fibrillation (3.47%), transient ischemic attack (0.18%), spontaneous dissection of the carotid artery (0.18%), rupture of the chordate tendineae (0.18%), documented coronary insufficiency due to the anomalies of the arteries (0.18%), progressive failure of the mitral valve requiring surgical intervention (1.46%), lone pulmonary thromboembolism (0.18%), subarachnoid hemorrhage due to rupture of cerebral artery aneurysms or arteriovenous malformation (6.40%), symptomatic cerebral arte- rial aneurysms or arteriovenous malformations (10.42%, except cases of sub- arachnoid hemorrhage), aortic aneurysm/dissease requiring surgical interven- tion (2.50%).

Conclusions: Severity of the clinical spectrum of connective tissue disorders is highly variable. Light phenotypic manifestations of connective tissue abnormal- ities are often underestimated in the context of the risk of complications. Young patients with multiple connective tissue abnormalities is a group of risk of adverse cardiovascular events and require careful monitoring of cardiovascular system in the stream of life despite the absence of hereditary syndromes.

PS151 | BEDSIDE
Predictors of long-term outcomes in patients with medical treatment for acute aortic dissection
A. Izawa, S. Hiraoka, K. Yamaka, T. Takeuchi, A. Okada, Y. Shiba, T. Tomita, Y. Miyashita, J. Koyama, U. Iwada. Shinsyu University School of Medicine, Department of Cardiovascular Medicine, Matsumoto, Japan

Background: Although uncomplicated acute aortic dissection can be managed with aggressive medical therapy, long-term outcomes of patients with medical treatment for either type A or B dissection have not been fully investigated. This study was designed to evaluate outcomes and identify prognostic predictors in patients with medical treatment for acute aortic dissection.

Methods and results: We examined 85 patients (60 males, mean age 67.8 years) with acute aortic dissection, which were classified Stataion-type A or B and followed conservatively for a median period of 6.7 months. To analyze adverse events (death or any aortic events requiring open surgery or endovascular in- tervention), Kaplan-Meier event-free curves with log-rank tests were performed (Figure 1). Significantly high event rates were observed in females (p=0.011), and in patients with ulcer-like projection (p=0.004). Moreover, patients with estimated glomerular filtration ratio (eGFR) below the median level of 65.6 mL/min/1.73m2 (p=0.009) and patients with type Y A acute aortic dissection (p=0.010) had high risk of adverse events. Cox proportional hazard models demonstrated that fe- males (HR 4.83, 95% CI: 1.73-14.03, p=0.003), below the median eGFR (HR 5.14, 95% CI: 1.43-18.55, p=0.012), and the presence of ulcer-like projection (HR 3.24, 95% CI: 1.11-9.44, p=0.001) were strong predictors for adverse events; on the contrary, the Stanford classification was not significant after multivariate ad- justments.

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