

OBJECTIVES: To describe the impact of hypertension (HTN) on hospitalisations due to cardiovascular diseases (CVDs) in individuals with different blood pressure (BP) levels using data from routine health check-ups reported in a Japanese claims database. **METHODS:** Using data from the Japan Medical Data Center (JMDC) database, a retrospective longitudinal cohort study was conducted on adults aged 40-64 years with both systolic and diastolic pressure readings between January 2008 and January 2015 (first check-up defined as index date). Individuals were categorised as naïve to HTN therapy (naïve) or having prior HTN therapy (experienced), depending on the prescription of HTN drugs within a 6-month look-back period. Time from index date to hospitalisation due to CVDs was compared among individuals with different BP levels at index date (optimal, normal, high-normal, Grade1, Grade2 and Grade3) using Cox proportional hazards model. Models with time-dependent variables reflecting the BP variation over follow-up were also used. **RESULTS:** Of the 740,784 naïve individuals included, 61.8% were male, the mean age was 47.9 years and 46.9% were classified into the optimal group. The probability of hospitalisation increased with HTN severity at index date, with HRs of 1.95, 2.85 and 6.44 for Grade1, Grade2 and Grade3 respectively ($p < 0.0001$, reference: optimal). Naïve individuals with hypertension at last check-up had a significantly higher probability of hospitalisation compared to individuals without hypertension (HR: 1.75, $p < 0.0001$). Of the 72,828 experienced individuals included, 74.2% were male, the mean age was 53.6 years and 14.6% were classified into the optimal group. There was a non-statistically significant trend towards increased probability of hospitalisation in patients with more severe HTN at index date. **CONCLUSIONS:** This study adds quantitative evidence about the impact of hypertension on the risk of hospitalisations for CVD in Japan. Routine health check-ups are useful to identify patients at risk of CVD hospitalisation.

PCV28

RECENT TRENDS IN PERCUTANEOUS CORONARY INTERVENTION VOLUME IN THE UNITED STATES

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OBJECTIVES: Percutaneous coronary intervention (PCI) is a common major medical procedure in the United States. It has previously been estimated there are 600,000-1,000,000 PCIs performed annually, although these results are based on older data. The aim of this study was to accurately estimate the number of PCI procedures and describe potential trends in PCI use during 2010 to 2013. **METHODS:** The National Inpatient Sample (NIS) is the largest publicly available all-payer inpatient healthcare database in the United States, containing a 20% stratified systematic random sample of discharges from all US community hospital discharges. The most recent 4 years of available data, 2010-2013, were used for this analysis. International Classification of Diseases 9th revision (ICD-9) codes were used to identify patients undergoing PCI, as well as to segment high-risk patients based on certain diagnoses. Population sampling weights were used to extrapolate results to national estimates. **RESULTS:** There were 559,219 PCI procedures in 2010 decreasing to 519,100 in 2013, corresponding to a change of -7.2% ($p < 0.0001$). The corresponding rate of PCIs per 10,000 population was 18.08 in 2010 and 16.40 in 2013. Despite the overall decrease in PCI volume, procedures among high-risk patients increased during this time period. PCI procedures among patients with cardiogenic shock increased from 19,932 in 2010 (3.56% of all PCIs) to 22,685 in 2013 (4.37%) and procedures among patients with left ventricular heart failure increased from 40,417 (7.23%) in 2010 to 59,110 (11.39%) in 2013. **CONCLUSIONS:** This study shows that the volume of PCIs in the United States has decreased in recent years, and is significantly lower than previous estimates. Despite the overall decrease in PCI volume, procedures among patients with high-risk characteristics increased during the same time period. This suggests a potential shift in the application of PCI to more severe patients.

PCV29

CARDIOVASCULAR EVENTS OF PATIENTS PRESENTING WITH PERIPHERAL ARTERY DISEASE (PAD): AN EPIDEMIOLOGICAL ANALYSIS USING A CLAIMS DATABASE IN FRANCE

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OBJECTIVES: Describe patients' characteristics, incidence of cardiovascular (CV) events and treatment of PAD using a claims database. **METHODS:** A cohort of patients with PAD between 2007 and 2011 was extracted from a claims database: the "EGB" (a 1% representative sample of subjects covered by the general health insurance scheme (~600,000 patients)). Patients were followed after the date of the first PAD diagnosis identified in the database. The incidence of death (all cause), major bleedings and CV events were estimated and compared with an age and gender matched control group with no PAD diagnosis. **RESULTS:** 5,889 subjects with PAD were identified: 68.1% were male, mean age 70.8 years, 28.9% had diabetes (vs 13.2% in control group), 52.9% hypercholesterolemia (vs 28.7%), 46.6% Hypertension (vs 12.3%), 4.9% a history of unstable angina/MI (0.5% in control group) and 6.0% a history of stroke (1.4% in control group). At inclusion, 65.5% of patients were treated with antiplatelet (vs 17.1% in the control group), 49.6% with statins (vs 21.5%), 26.8% with angiotensin-converting enzyme inhibitors (vs 13.3%), 26.4% with angiotensin receptor blockers (vs 16.0%), 29.3% with combinations of statins and antithrombotic (antiplatelet agent or oral anticoagulant) and inhibitors of the renin-angiotensin system (ACEI or ARB) (vs 6.5%). In the PAD group, cumulative mortality rates were 13.2% (95%CI=[12.3%;14.0%]) at one year and 19.4% at 2 years (95%CI=[18.4%;20.5%]) versus 3.2% (95%CI=[2.7%;3.6%]) and 6.5% (95%CI=[5.9%;7.1%]) in control. Cumulative rates of mortality and major CV

events (myocardial infarction and ischaemic stroke) in PAD patients were 15.7% (95%CI=[14.8%;16.6%]) at one year and 22.9% (95%CI=[21.9%;24.0%]) at 2 years versus 3.9% (95%CI=[3.4%;4.4%]) and 7.8% (95%CI=[7.1%;8.5%]) in the control group. All differences were statistically significant ($p < 0.05$). **CONCLUSIONS:** Mortality and CV events incidences are 4 times higher in PAD patients, but treatment guideline recommendations are far from fully implemented. This suggests the need for an increasing utilization of recommended treatments.

PCV30

ASSESSMENT OF PATTERNS OF INITIATION OF ORAL ANTICOAGULANT THERAPY IN HYPERTENSIVE PATIENTS WITH ATRIAL FIBRILLATION

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OBJECTIVES: To describe patterns of use of warfarin and new oral anticoagulants (NOACs) in hypertensive patients with atrial fibrillation. **METHODS:** A population-based cohort study was conducted using administrative health care records from a Local Health Authority in the Campania Region (about 1 million inhabitants). New users of an oral anticoagulant (OAC) between Jan 1st 2014 and Dec 31st 2014 were selected. Subjects above 50 years and whose drug prescription amounted to > 90 days of anticoagulation (assumed atrial fibrillation indication). Demographic characteristics (age; gender), type of concomitant medications and polytherapy regimen at the time of first OAC dispensation were retrieved for multivariable logistic regression analysis as predictors of NOAC initiation (odds ratios, OR and 95% CIs). **RESULTS:** A total of 4,059 new users of OAC were identified. A cohort of 1,758 subjects with atrial fibrillation were included in the study, 833 subjects (47.38%) received as first dispensation a NOACs and 925 (52.62%) received warfarin. Age > 75 was positively associated with NOAC initiation (OR: 1.56; 95% CI 1.19-2.05); multiple concomitant medication was negatively associated with NOAC initiation (OR: 0.73; 95% CI 0.56-0.96). **CONCLUSIONS:** High proportion of patients with atrial fibrillation received NOACs as first choice of treatment. Complex drugs regimen may negatively influence the choice of NOACs. Our findings may have implications for real-world practice studies.

PCV31

FACTORS ASSOCIATED WITH THE USE OF COMPLEMENTARY MEDICINES IN HYPERTENSION

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OBJECTIVES: To determine the factors that associated with the use of complementary and alternative medicines (CAM) among hypertensive patients in Iraq. **METHODS:** A cross sectional study was carried out among hypertensive patients from Jan 2015 to Dec 2015. Patients were selected through convenience sampling technique at the internal medicine department of Alkarama teaching hospital, Baghdad, Iraq. A validated questionnaires were used for gathering of data. Chi-square test was used to find the association among the study variables. An alpha value of 0.05 and less was adopted. **RESULTS:** The response rate was 93.02%. Of 400 responses, more than two thirds (65.5%) used CAM to control their condition with a monthly expenditure ranges from 9.03 to 135.5 United States Dollars. The highest proportion of CAM users was dominated by male patients (67.4%). A statistically significant differences in the use of CAM was found according to patients' educational level; marital status; and duration of hypertension. It was found that biological-based therapies was among the most used CAM (62.8%). Followed by traditional therapies (27.8%); manipulative body-based therapies (18.5%); and mind-body therapies (13.5%). Cultural effects, social relationships, other hypertensive patients, herbalists, media and nurses were the most influential reasons of using CAM. **CONCLUSIONS:** The use of CAM in the control of blood pressure was prevalent among hypertensive patients in Iraq. This surge was augmented by the cultural and social effects. Patient's educational level, marital status, and duration of hypertension were associated with the use of CAM. To prevent unnecessary danger in standard treatment; physicians and health care professionals should be aware of the use of this type of therapy by their patients

PCV32

RACIAL DIFFERENCES IN CARDIOVASCULAR DISEASE PREVALENCE AND MORTALITY IN THE UNITED STATES

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OBJECTIVES: To understand the racial differences in prevalence and mortality of cardiovascular disease in the United States (US). **METHODS:** We included non-Hispanic Black, Hispanic, and non-Hispanic White adults aged 20 years or older from the 2013-2014 National Health and Nutrition Examination Survey (NHANES). Mortality data was accessed using the CDC's Web-based Injury Statistics Query and Reporting System (WISQARS) 2014. Data were stratified by age categories (20-39, 40-64, 65+) and gender. **RESULTS:** Among US adults, 12% are Black, 16% are Hispanic, and 72% are White. Almost half of the Black population was categorized as obese (47%), Hispanics (43%), and Whites (36%). Black women are more likely to be obese than Hispanic and White women and are also more likely to be obese than Black men. Blacks and Hispanics are most likely to have diabetes (13%) compared with Whites (8%). Hispanics are most likely to be affected by dyslipidemia (LDL value 100-160 mg/dL; 59% Whites (55%) and Blacks (51%); for the highest levels of LDL > 160 mg/dL, all racial groups have similar proportions affected (approximately 10%). Hispanics have the lowest proportions of patients with hypertension (28%), Whites (34%) and Blacks (43%). Rates of almost all cardiovascular conditions increase with age across all racial categories. Hypertension levels are especially high among adults aged 65+ (76% of elderly Blacks, 60% of elderly Hispanics, and

64% of elderly Whites). Heart disease, cerebrovascular disease, and diabetes mellitus are among the top five causes of death for Hispanics and Blacks. Heart disease and cerebrovascular disease (24% and 5% of all deaths for Whites) are among the top cardiovascular-related causes of death for Whites. **CONCLUSIONS:** It is important to understand the differences in cardiovascular disease prevalence and mortality between racial groups in order to develop more effective and targeted healthcare interventions.

PCV33

HIGH-SENSITIVITY C-REACTIVE PROTEIN MEASUREMENTS IN PATIENTS WITH A HISTORY OF MYOCARDIAL INFARCTION: A TARGETED LITERATURE REVIEW

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OBJECTIVES: The incidence of cardiovascular (CV) events is high after acute myocardial infarction (MI). Chronic inflammation is a common CV risk factor in heart disease. The inflammatory marker C-reactive protein (CRP) can be measured in a high-sensitivity assay (hs-CRP) specific to cardiac inflammation. This research assessed published data on the prevalence of elevated CRP among patients with a history of MI. **METHODS:** A comprehensive literature search was performed for publications in English between January 2000 and February 2016 in MEDLINE, EMBASE, and MEDLINE In-Process. Search terms were variations on 'Post myocardial infarction', 'CRP' and 'epidemiology'. Clinical and real-world studies reporting baseline CRP levels in stable patients with a history of MI were included in the analysis. **RESULTS:** Eight publications provided information on baseline CRP levels in patients with a history of MI. Cut-off points in hs-CRP assays varied from >2 mg/L to ≥5.9 mg/L. One publication reported 36% prevalence of CRP levels >2 mg/L, one found 49% prevalence of levels >2.3 mg/L and one analysis reported 50% prevalence of levels ≥2.37 mg/L. One analysis found 33% prevalence of CRP levels ≥2.9 mg/L. The prevalence of CRP levels >3 mg/L were reported by two publications as 27.6% and 53.7%, respectively. One study reported 38.8% prevalence of levels ≥3.3 mg/L. Levels ≥3.8 mg/L were found in 25% (one study); levels ≥4.2 mg/L in 25% (one analysis) and levels ≥5.9 mg/L in 24.7% of patients (one analysis). **CONCLUSIONS:** Limited data are available on the prevalence of elevated levels of CRP in patients with a history of MI. Although variations in findings, cut-off points and methods between studies make generalisations difficult, the condition appears to be common. Epidemiological studies employing the hs-CRP assay would be desirable to provide improved data on elevated CRP and CV risk in patients with a history of MI.

PCV34

THE EFFECT OF RAS-MODIFYING MEDICATIONS ON PULMONARY COMPLICATIONS IN PATIENTS WITH HYPERTENSION

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OBJECTIVES: Our previous studies have shown that hypertensive patients with diabetes are susceptible to severe pulmonary complications. This study aims to determine if RAS-modifying medications (angiotensin converting enzyme [ACE] inhibitors and angiotensin receptor blockers [ARBs]) have a beneficial impact on pulmonary complications in patients with hypertension (HTN) controlling for type 1 diabetes (T1D) and type 2 diabetes (T2D). **METHODS:** Retrospective analyses were conducted using claims data from a US commercial insurance company. The study groups consisted of HTN patients taking either: ACE inhibitors, ARBs, or control (diuretics or calcium-channel blockers). Cox analyses were performed to determine the impact of ACE inhibitors and ARBs on incidence of respiratory complications controlled for comorbidities, demographics, and diagnosis of T1D or T2D as a risk factor. The events included pneumonia and influenza (ICD-9 480-488 [D48]), chronic obstructive pulmonary disease and allied conditions (ICD-9 490-496 [D49]), and other diseases (ICD-9 510-519 [D51]). **RESULTS:** Our cohort consisted of 97,182 patients with T1D, 123,045 with T2D and 758,695 non-diabetic patients. T1D analysis showed that patients treated with ACE inhibitors had lower incidence of D48 by 16% (hazard ratio [HR]=0.841, 95% confidence interval 0.823-0.860), D49 by 8% [HR=0.921 (0.912-0.931)], and D51 by 11% [HR=0.892 (0.881-0.903)] compared to patients treated with control drugs. ARBs patients also exhibited a lower risk of D48 by 15% [HR=0.850 (0.824-0.877)], D49 by 8% [HR=0.924 (0.911-0.938)] and D51 by 12% [HR=0.882 (0.867-0.896)]. T2D was associated with increased risk in all categories: D48, HR=1.489 (1.447-1.532); D49, HR=1.405 (1.383-1.427); D51, HR=1.391 (1.367-1.415). T1D analysis showed similar decreasing trends for each drug class while T1D increased the risk to a greater extent compared to T2D: D48, HR=2.320 (2.262-2.379); D49, HR=1.527 (1.506-1.548); D51, HR=1.779 (1.753-1.806). **CONCLUSIONS:** The use of ACE inhibitors and ARBs significantly reduced the risk of pulmonary complications in HTN patients. Both T1D and T2D were associated with increased risk.

PCV35

RETROSPECTIVE PATIENT CHART STUDY TO EVALUATE REAL LIFE TREATMENT AND EVENT RATE OF PATIENTS SURVIVING THEIR MYOCARDIAL INFARCTION FOR AT LEAST 12 MONTHS

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OBJECTIVES: Our study was intended to collect insights on the treatment and event rates of patients with myocardial infarction (MI) surviving their MI for at least 12 months in the routine clinical practice in Germany. Of special interest were recurrent ischemic events. **METHODS:** In this retrospective patient chart analysis, patients who had a MI and at least one high risk factor for recurrent cardiovascular

events were enrolled by general practitioners and cardiologists. **RESULTS:** 615 living patients with a MI 1-3 years ago and an event free period of at least 12 month after the index event have been analyzed. The mean age at the time of the index MI was 69.7 years (SD=7.92) and patients were by the majority male (63.9%) A NSTEMI has slightly more often been the cause of the MI than a STEMI (53.5% vs. 45.7%). 88.6% of the patients received a coronary revascularization (PCI 68.3%, CABG 10.9%). After the MI the vast majority of patients has been treated with ASA (94.47%) and ADP-receptor agonists (80.65%). The most frequently used medication for secondary prevention were lipid lowering agents (86.3%), followed by beta-blocker (76.1%) and ACE inhibitors (61.6%). The ratio of the patients with a recurrent cardiovascular event was 14.4%. Slightly more than half of the recurrent events were classified as NSTEMI (STEMI 48.04%, NSTEMI 51.02%). **CONCLUSIONS:** The evidence of a recurrent cardiovascular event rate of 14.4% in patients who suffered a MI 1-3 years ago imply a continuous increased cardiovascular risk beyond the first 12 month after the index event. Patients should therefore remain under close cardiologic surveillance and both the antithrombotic therapy and the secondary prevention should be optimized.

PCV36

DISCORDANCE BETWEEN KNOWLEDGE OF CARDIOVASCULAR RISK FACTORS AND IDEAL CARDIOVASCULAR HEALTH IN HONG KONG ADULTS

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OBJECTIVES: Life's Simple 7 (LS7) is a metric developed by the American Heart Association for assessing ideal cardiovascular (CV) health. This study aimed to investigate the association between knowledge of CV risk factors and ideal CV health among Hong Kong adults. **METHODS:** We conducted a cross-sectional observational survey of adults (aged ≥18) in the community from July 2013 to March 2014. A structured questionnaire included demographic data, CV health promoting lifestyle behavior, known CV diseases and knowledge of CV risk factors. A CV risk knowledge score and overall LS7 score for each subject were calculated. Association of each LS7 component with its corresponding risk knowledge was explored. **RESULTS:** Of 1,015 subjects surveyed, (mean age: 52.5±26.1; 29.2% male) only 0.5% had ideal CV health and 36.6% had 5 to 7 ideal CV health metrics. The proportion of subjects correctly identified all 7 CV risk factors was 38%. Elderly (≥65 years) subjects were less likely to identify high cholesterol (Odds Ratio (OR) 0.23; 95%CI: 0.07-0.73; P=0.01), high blood pressure (OR 0.08; 95%CI: 0.02-0.32; P<0.01), and high blood glucose (OR 0.35; 95%CI: 0.17-0.75; P=0.01) as CV risk factors. In logistics regression analysis, female (OR 1.53; 95%CI: 1.07-2.02; P=0.02), age<65 (OR 2.71; 95%CI: 1.36-5.39; P=0.01), and tertiary educational level or above (OR 2.71; 95%CI: 1.61-4.57; P<0.01) were positively associated with optimum LS7 score (≥10 out of 14 points). There was no association between subject's CV health seeking lifestyle behavior and recognition of corresponding CV risk factor. **CONCLUSIONS:** Less than 1% of adults had ideal CV health in Hong Kong. Knowledge of CV risk factors and history of CV disease were not associated with better CV health or lifestyle behavior. This suggested that education alone may not be sufficient to promote better CV health.

PCV37

THE EPIDEMIOLOGY AND CARDIOVASCULAR DISEASE RISK ASSESSMENT OF PATIENTS CURRENTLY ON LIPID LOWERING TREATMENT WITH STATIN: NATIONWIDE CROSS-SECTIONAL STUDY IN KOREA

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OBJECTIVES: Evaluation of cardiovascular disease (CVD) risk factors is crucial for the treatment of dyslipidemia patients, but little is known about its prevalence and CVD risk levels in this patient group. It aimed to assess CVD risk levels among patients on statin. **METHODS:** We conducted a cross-sectional, multicenter and observational study in patients on statin for at least six months, but less than two years, from nationwide 26 tertiary hospitals in Korea between December 2014 and October 2015. Data was collected through self-administered questionnaires and medical chart review. CVD risk levels were categorized as low; 0-1 CVD risk factor from conventional criteria, moderate; 2+ CVD risk factors, high; CVD or CVD risk equivalents, very high; presence of CVD and one of followings; diabetes, smoking, multiple risk factors for the metabolic syndrome or acute coronary syndrome. **RESULTS:** A total of 2,409 patients on statin treatment were enrolled in the study. The mean age was 62.4±11.2 years old, and 66.5% were male. More than half were classified as very high CVD risk level (51.5%), the second leading CVD risk level was high (29.9%), and moderate and low CVD risk levels were consisted of 13.5% and 5.1% respectively. Of the total, 15.2% were current smokers, 36.9% were current drinkers and about one third had never regular exercise. Of the total, 74.5% were taking antihypertensive medication, and 15.0% had the family history of premature CVD. Almost all the patients were co-morbid (Hypertension: 56.7%, Angina: 46.2%, Diabetes Mellitus: 25.1%, Myocardial Infarction: 24.9%). Prescribed dose of statin was different according to the CVD risk levels, and approximately 3/4 patients were prescribed with moderate intensity of statin in all risk levels (p<0.0001). **CONCLUSIONS:** This study revealed that Korean patients on statin had high prevalence of CVD risk factors and a majority of the patients were at high or very high CVD risk levels.