PCV20
COMPARATIVE SAFETY AND EFFECTIVENESS OF CATHETER ABLATION VERSUS SURGERY FOR NEWLY DIAGNOSED ATRIAL FIBRILLATION

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OBJECTIVES: To assess comparative safety and effectiveness of catheter ablation (CA) versus surgery in patients with newly diagnosed atrial fibrillation(AF). **METHODS:** We used the national health claim database managed by Health Insurance Review and Assessment Service (HIRA) from 2007 to 2011. Patients with AF who aged 18-99 were identified using the I48* ICD-10 code. The eligible cohort was identified patients who diagnosed new AF in 2008 and treated with CA or surgery within 1 year of initial diagnosis. According to modality, characteristics of patient were analyzed. Patients were followed until in hospital death or December 31, 2011. Mortality and retreatment were analyzed by Cox-proportion hazard regression. **RESULTS:** A total of 343 eligible patients with AF were composed of 220(82.7%) treated with CA, 123(15.8%) treated with surgery. Among treated patients, CHA2DS2 Score were 3.17±1.61 in CA and 4.13±1.67 in surgery. Mortality for patients treated with CA and surgery were 0.9% and 10.6% respectively, also retreatment rate were 50.9% and 15.4% respectively. Treatment modality was associated with retreatment rate of AF[adjusted hazard ratio(HR), 0.33; 95% confidence interval (CI), 0.18-0.60] and no significant difference in mortality. The most common complication was heart failure. **CONCLUSIONS:** In this study, we found that mortality was higher treated with surgery than catheter ablation, but there was no significant difference and surgery is significantly superior in terms of retreatment rate. However, patients receiving catheter ablation therapy are more likely to be at low risk of stroke and follow-up time was not enough to compare mortality and complication incidence. Therefore, we need additional long-term studies using clinical data of AF.

PCV21
COMPARATIVE EFFECTIVENESS AND SAFETY OF RADIOFREQUNCY CATHETER ABLATION VERSUS DRUG THERAPY FOR ATRIAL FIBRILLATION: A SYSTEMATIC REVIEW

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OBJECTIVES: Atrial Fibrillation (AF) is the most common arrhythmia associated with a variety of cardiovascular conditions and increased rates of stroke, death. The aim of this study was to critically evaluate the current evidence on the use of radiofrequency catheter ablation (RFCA) for rhythm control compared with antiarrhythmic drug (AAD) therapy in patients with AF. **METHODS:** We searched potentially relevant studies using electronic databases such as Ovid-Medline, Ovid-EMBASE, Cochrane library, and seven Korean medical databases through May 2012. Two independent reviewers extracted data from each study using a standardized form. Disagreements between reviewers were resolved by discussion or in consultation with a third reviewer. The quality of the selected studies was assessed using the Cochrane risk of bias for randomized controlled trials (RCTs). A random-effects model was used to combine trials and the dichotomous data were presented as relative risk (RR) with 95% confidence intervals (CI). **RESULTS:** A total of 10 studies (8 RCTs) representing 930 patients were included. Their methodological quality was mostly poor. RFCA, in comparison with AAD therapy, significantly increased freedom from atrial tachycardia/AF (RR 3.06, 95% CI 2.34-3.99, P<0.00001, I²=55%) in 8 RCTs at one year follow-up. There was no difference in all-cause mortality (4 RCTs, RR 0.76, 95% CI 0.18-3.19, P=0.71, I²=0%). Also, the rates of stroke/transient ischemic attack between both groups was insignificant (RR 1.95, 95% CI 0.34-11.04, P=0.83, I²=0%). Fewer complications were reported in the RFCA group compared with AAD group (RR 0.68, 95% CI 0.37-1.23, I²=45%). **CONCLUSIONS:** There is limited evidence to suggest that RFCA may be a better rhythm control treatment option compared to AAD therapy in patient with AF. Further rigorous RCTs with long-term follow up that overcome the many limitations of the current evidence are warranted.

PCV22
LDL-C LEVEL AND GOAL ATTAINMENT AMONG PATIENTS WHO SWITCH FROM HIGHER-EFFICACY LIPID LOWERING THERAPIES TO SIMVASTATIN

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OBJECTIVES: Elevated low-density lipoprotein cholesterol (LDL-C) is an influential risk factor for cardiovascular disease (CVD) morbidity/mortality. Our objective was to evaluate the impact of switches from higher-efficacy lipid-lowering therapy (HELLT) to simvastatin on LDL-C levels and LDL-C goal attainment among high risk patients in UK. **METHODS:** This retrospective cohort study included individuals who received more than 2 months prescription of the following HELLT between 8/1/04 and 12/31/08: ezetimibe/simvastatin fixed dose combination (E/S), ezetimibe and simvastatin co-administration (E+S), ezetimibe and atorvastatin co-administration (E+A), ezetimibe and rosuvastatin co-administration (E+R), rosuvastatin monotherapy and atorvastatin monotherapy. For each baseline HELLT, we used the analysis of covariance to estimate the least square mean difference in the percent change from baseline LDL-C between switchers and non-switchers, and logistic regression to estimate the odds ratio of LDL-C goal attainment (<3mmol/L for primary prevention and <2mmol/L for secondary prevention) at follow-up. **RESULTS:** A totoal of 30,148 patients from Clinical Practice Research Datalink met inclusion/exclusion criteria. E+A and E+R were excluded due to small number of switchers. 89.1% of switchers in atorvastatin group switched to an equivalent or higher efficacy dose of simvastatin, while 100% switching from E/S or E+S and 96.8% switching from rosuvastatin switched to lower than equivalent efficacy dose. The adjusted least squares mean difference of the percent change in LDL-C levels from baseline were 18.74% (95% confidence interval 8.6-28.9), 16.7% (12.8-20.6) and -0.1% (-1.8-1.6) when switching from E/S or E+S, rosuvastatin and atorvastatin respectively compared to non-switchers. The odds of LDL-C goal attainment at follow-up for E/S or E+S, rosuvastatin and atorvastatin switchers were respectively 0.40 (0.23-0.70), 0.36 (0.26-0.51) and 1.03 (0.92-1.15) relative to non-switchers. **CONCLUSIONS:** Among the high risk CVD population in the UK, switching to simvastatin from higher-efficacy lipid lowering therapy, especially rosuvastatin and simvastatin/ezetimibe FDC or co-administration results in higher LDL-C level and lower goal attainment rate.

PCV23
COMPARATIVE PHARMACOECONOMIC ANALYSIS OF TWO METFORMIN FOR-MULATIONS IN PATIENTS WITH DIABETES MELLITUS TYPE-2 AND ISCHEMIC HEART DISEASE

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OBJECTIVES: To compare cost-effectiveness of two metformin formulations (immediate release [IR] and extended release [XR]) in the cohort of patients with diabetes mellitus type-2 (DM2) and ischemic heart disease (IHD). **METHODS:** Cost-effectiveness analysis of metformin IR (Siofor® 500 mg tid) and metformin XR (Glucophage® Long 750 mg bid) was performed using cohort modeling. Daily dosage of metformin was the same for both formulations, 1500 mg a day. For a model cohort of 100 patients, annual cost of metformin treatment was 359,270 RUB (11,841 USD) for metformin IR and 498,347 RUB (16,425 USD) for metformin XR. Effectiveness of the treatment was evaluated using the data of UKPDS study (1998), which demonstrated that 1% reduction of HbA1c led to 14% reduction of angina attacks rate. **RESULTS:** Assuming linear character of relationships between HbA1c level and angina attacks rate, and taking into account the data of Donnelly L.A. et al. (2008) that using metformin XR provides additional 0.7% reduction of HbA1c level, we suggested that administration of metformin XR would reduce the frequency of angina attacks in DM2 patients with OHD by 9.8%. It was assumed that average frequency of angina attacks in this cohort was 1 per year per patient; therefore administration of metformin XR instead of metformin IR would annually prevent approximately 10 cases of angina in the modeled cohort of 100 patients. According to standards of IHD treatment in Russia, angina attack treatment costs 19,970 RUB per patients (658 USD), for 10 patients it will total 199,700 RUB (6,580 USD). This sum might be saved by administration of metformin XR, and even taking into account higher cost of metformin XR, annual saving per 100 patients would be 60,600 RUB per year (1,997 USD). **CONCLUSIONS:** Administration of metformin XR to patients with DM2 and IHD is more cost-effective that administration of metformin IR.

PCV24
COMPARATIVE EFFECTIVENESS OF ANGIOTENSIN RECEPTOR BLOCKERS IN CHRONIC HEART FAILURE: A NETWORK META-ANALYSIS

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OBJECTIVES: Chronic Heart failure (CHF) is associated with significant morbidity and mortality. Angiotensin receptor blockers (ARBs) are one of most commonly prescribed drug class for patients with CHF among patients who are intolerant to angiotensin converting enzyme inhibitors (ACEI). A recently published Cochrane review concluded that ARBs as a class confer no additional benefit on mortality or total hospitalization as compared to placebo or ACEI. The aim is to compare efficacy of ARBs (losartan, valsartan, candesartan, and telmisartan) on hospitalization and mortality relative to each other and to placebo among patients with CHF. **METHODS:** Studies on ARBs were identified from a recently published Cochrane systematic review. A network meta-analysis (NMA) was conducted for three outcomes; all-cause hospitalizations, hospitalization due to heart failure, and all-cause mortality using WinBUGs. Binomial likelihood models were run for each outcome and analyses were conducted on an odds ratio scale. Fixed or random effects models were run to estimate relative treatment effects **RESULTS:** Sixteen studies were identified from the review. Five studies reported data on all-cause hospitalization and six on hospitalizations due to heart failure, for two drugs (candesartan and losartan).Data on mortality was reported in 16 studies for losartan, valsartan, candesartan, and telmisartan. ARBs did not have significantly different effects from placebo or each other on all the three outcomes studied. NMA can also be used to rank treatments. Within this we found that compared to all other ARBs, telmisartan and losartan had the highest probabilities of being the best treatments to reduce mortality and hospitalizations, respectively. **CONCLUSIONS:** Results of the NMA indicated that there was no significant difference between any of the individual ARBs, ACEI or placebo on mortality and hospitalization. A further analysis that uses meta-regression to adjust for co-morbid conditions such as diabetes, hypertension and ischemic heart disease is warranted.

PCV25
BUILDING THE INFRASTRUCTURE FOR CONDUCTING PRAGMATIC TRIALS IN A LEARNING HEALTH CARE SYSTEM

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OBJECTIVES: To describe methods used and successes realized in building the infrastructure to conduct pragmatic clinical trials of comparative effectiveness

research (CER) in Washington State's Learning Healthcare System - the Comparative Effectiveness Research Translation Network (CERTAIN). **METHODS:** Leveraging the infrastructure of the Surgical Care and Outcomes Assessment Program (SCOAP), a statewide coordinated quality improvement program that tracks surgical outcomes in hospitals, we created an infrastructure for conducting CER/PCOR. We are using the CERTAIN network to conduct a pragmatic clinical trial – a multi-site, prospective, observational cohort study of patients in community settings with peripheral artery disease (PAD) treated with open surgical, endovascular, or conservatively managed care. Clinical and patient-reported outcomes (PRO) are collected at baseline, 30-days, 6- and 12-months post intervention. The primary outcome is the change in scores on the Walking Impairment Questionnaire. The SCOAP Medical Director engaged PAD-treating vascular surgeons, interventional radiologists and cardiologists. Study staff educated all institutional review boards about pragmatic trials. The SCOAP CERTAIN Survey Center administers all PRO surveys using a mode of administration of each patient's choice (e.g. web-based, paper-pencil); and deploys vigorous follow-up contact algorithms to retain patients. **RESULTS:** Over 18-months, 15 sites have been engaged and are enrolling patients. Over 5500 medical records have been screened; 1016 patients (18%) with PAD identified. 415/1,016 (41%) met all inclusion criteria and received enrollment packets, 193 are actively participating, 14 have completed the study. Enrollment continues through September 2013. In companion work, CERTAIN Investigators developed their own 'symptom' instrument, informed by interviews with 11 patients; and are conducting a sub-study to compare scores on PRO instruments administered using various modes of administration. **CONCLUSIONS:** This CERTAIN PAD study illustrates the effort required to conduct a pragmatic trial. As the nation embraces the research paradigm of CER, Washington State's Learning Healthcare System is modeling success.

PCV26
USE OF STATINS AND RISK OF DEMENTIA IN HEART FAILURE
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OBJECTIVES: Heart failure (HF) is associated with increased risk of dementia and dementia is an independent predictor of hospitalization in HF patients. Studies show dyslipidemia may be involved in the pathogenesis of dementia. However, it is unclear whether statins are associated with risk of dementia in HF patients. The present study examines the effectiveness of statins to prevent dementia in HF patients. **METHODS:** This retrospective, longitudinal study used a cohort of patients with HF identified from a local Medicare advantage prescription drug plan to examine incidence of dementia with up to 3 years of follow up period. Multivariable time dependent Cox model and inverse-probability-of-treatment weighting (IPTW) of marginal structural model were used to estimate the risk of developing dementia controlling for sociodemographic factors, comorbidities, comedications, appropriate laboratory measures, and potential time-varying confounding affected by previous treatment (hospitalization and low density lipoprotein test). Adjusted dementia rate ratios were estimated among current and former statin users, as compared with nonusers. **RESULTS:** The study included a total of 8062 HF patients (mean age 74.47±9.21 years) of which 1135 (14.08 %) patients were diagnosed with dementia during the median follow up of 22 months. Using the time dependent Cox model, the adjusted dementia rate ratios (95% confidence interval) among current and former users were 0.93 (0.71-1.21) and 0.99 (0.79-1.25). Use of IPTW resulted in similar findings with rate ratios (95% conservative confidence interval) of 1.24 (0.89-1.72) among current users and 0.94 (0.67-1.31) for former users as compared with the nonusers. **CONCLUSIONS:** This study found no difference in risk of dementia among the current and former users of statin as compared with the nonusers in an already at-risk HF population.

PCV27
EXAMINING THE RATE OF MYOCARDIAL INFARCTION AND ASSOCIATED COSTS IN PATIENTS CONCOMITANTLY RECEIVING CLOPIDOGREL AND VARIOUS PPIS: A RETROSPECTIVE CLAIMS ANALYSIS
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OBJECTIVES: The purpose of this study was to examine the rate of myocardial infarctions (MI) and associated event costs in patients prescribed clopidogrel and a concomitant PPI. **METHODS:** This was a retrospective study of administrative claims using the IMS Lifelink Database. Adult GERD patients concomitantly prescribed clopidogrel and PPI ≥ 30 days from July 1, 2005-December 31, 2009 were identified. Patients were required to have continuous insurance coverage for ≥ 6 months prior to the concomitant therapy start date. Patients were followed until a MI (based upon emergency department or inpatient hospitalization diagnosis), medication discontinuation, loss of insurance coverage, or one year, whichever occurred first. **RESULTS:** A total of 64,370 PPI+clopidogrel patients (40.3% female) were identified. Of these, 17,260 (26.8%) were prescribed esomeprazole, 7,237 (11.2%) received lansoprazole, 24,510 (38.1%) received omeprazole, 13,373 (20.8%) received pantoprazole, and 1,990 (3.1%) received rabeprazole. Rates of MI in these patients ranged from 3.1% (4.74 per 100 person years) for rabeprazole to 6.3% (10.31 per 100 person years) for pantoprazole. Cox proportional hazards model controlling for gender, age, Charlson comorbidity index score, and cardiovascular comorbid conditions at baseline, showed the risk of MI was significantly lower for rabeprazole (adjusted hazard ratio [HR]=0.753; P=0.0315), lansoprazole (HR=0.870; P=0.0373), and esomeprazole (HR=0.893; P=0.0203) when compared to omeprazole, while higher for pantoprazole (HR=1.197; P=0.0001). The average MI hospitalization event cost for patients with an event was $31,806, and the average MI-related emergency department visit cost was $1,934. **CONCLUSIONS:** The rate of MI was different among PPIs when used in combination with clopidogrel. These differences in MI rates may have important clinical implications as well as a significant economic impact given the high cost of MI-related hospitalizations and emergency department visits. Further studies are needed to evaluate the differences between these cohorts.

PCV28
CLINICAL IMPACT OF TREATMENT PERSISTENCE IN PATIENTS WITH ATRIAL FIBRILLATION
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OBJECTIVES: Discontinuation rates for vitamin K antagonists (VKAs) are high in patients with atrial fibrillation (AF). The aim of the current study was to assess the impact of VKA persistence compared to that of rivaroxaban, a new oral anticoagulant (NOAC) taken once daily and requiring no monitoring, on the incidence of ischemic strokes in patients with AF. **METHODS:** Data relating to persistence rates of warfarin and rivaroxaban over 18 months of patient follow-up was derived from the literature. A model was developed synthesising these data with published ischaemic stroke rates and the effect of switching to an alternative treatment. The model assumed an annual risk of ischaemic stroke of 1.65% and 5.00% for patients receiving warfarin or no treatment, respectively. To obtain the risk of stroke for patients receiving rivaroxaban, a relative risk of 0.94 was applied to the warfarin risk giving an annual probability of 1.55%. Publications suggest that persistence after 180 days is 44% for warfarin and 78% for rivaroxaban. Sensitivity analyses on persistence rates of rivaroxaban were conducted to account for uncertainty. **RESULTS:** Patients starting treatment with a VKA stayed on treatment for an average of 226 days. In contrast, patients starting on rivaroxaban stayed on treatment for approximately 412 days. The total ischaemic stroke risk at 18 months was estimated to be 5.15% and 3.48–4.07% for patients initiating therapy with warfarin or rivaroxaban, respectively. For a hypothetical cohort of 10,000 patients with AF the sensitivity analyses showed that the greater persistence with rivaroxaban would translate to 108–167 strokes avoided. **CONCLUSIONS:** Our model indicates that starting patients on rivaroxaban may decrease the number of total ischaemic strokes relative to warfarin treatment. Moreover, this decrease may correspondingly reduce the burden of stroke-related costs borne by health care systems.

PCV29
ACUTE PHARMACOLOGICAL TREATMENT GIVEN TO OLDER ADULTS WITH ACUTE MYOCARDIAL INFARCTION: A NATIONWIDE EMERGENCY DEPARTMENT STUDY, 1992–2010
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OBJECTIVES: To determine the pattern and predictors of use of acute pharmacological treatment (anti-platelet agents and beta-blockers) given in the emergency department (ED) to older adults with acute myocardial infarction (AMI). **METHODS:** Data from the National Hospital Ambulatory Medical Care Survey (NHAMCS) ED component from years 1992 to 2010 were used for the cross-sectional study. Patients were included if they had an admission diagnosis of AMI (ICD-9-CM code 410.xx) and were ≥55 years. Drug users were divided into 4 groups: anti-platelet agents only, beta-blockers only, anti-platelet agents & beta-blockers, and non-users. Survey logistic regression was used to examine the trend in the use of drugs across the years and whether age predicted drug use. All the visits were weighted to obtain national estimates. All the analysis were carried out in SAS 9.3. **RESULTS:** A total of 1771 visit (weighted: 6.1 million visits) by patients were selected for this study. Almost 54% [95% CI: 51.7% to 57.1%] of our population are females with a mean age of 72 (SE=0.33) years. This population is 87% white [95% CI: 84.9% to 89.1%] and 94% non-Hispanic [95% CI: 91.8% to 95.3%]. Both anti-platelet agents and beta-blockers showed to have a positive trend across the years (OR=1.09 [95% CI: 1.07 to 1.19] and OR=1.16 [95% CI: 1.13 to 1.19], respectively). Age was a significant predictor of anti-platelet agents use (OR=0.76 [95% CI: 0.62 to 0.93]), older adults (≥65) were less likely to receive an anti-platelet agent than younger adults; however, age was not considered to be a significant predictor of beta-blocker use. **CONCLUSIONS:** This study displayed a positive pattern across the years in the use of acute pharmacological treatment given for older AMI patients. It also suggested that older adults were less likely to be treated acutely with anti-platelet agents.

PCV30
TRENDS OF CARDIOVASCULAR DRUG UTILIZATION AND EXPENDITURES IN QATAR (2007-2011)
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OBJECTIVES: Cardiovascular diseases (CVDs) are the leading cause of death/disability in Qatar. Nonetheless, there are no any Qatari data that describes the patterns of using drugs for the CVD. This study sought to assess changes in the 'utilization' and 'expenditures' of cardiovascular drugs over time. **METHODS:** The study is conducted from the Hamad Medical Corporation (HMC) setting, whereby utilization and expenditures data were obtained from HMC drug databases that are based on the 2007- 2011 period. Data were categorized by drug, drug concentration, drug class, year, and hospital. Descriptive statistics were used to illustrate distributions of variables, and cross-tabulation was used to provide comparison of frequency data. **RESULTS:** An increasing trend in utilization and expenditures was associated with the use of cardiovascular drugs. The rise in expenditure was more substantial as compared to utilization