PCV142

COMPARATIVE EFFECTIVENESS REVIEW: DRUG-ELUTING STENTS VERSUS BARE-METAL STENTS FOR ACUTE MYOCARDIAL INFARCTION

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OBJECTIVES: To estimate the relative impact of drug-eluting stents (DES) versus bare-metal stents (BMS) on death, myocardial infarction (MI), target vessel revascularization (TVR), and stent thrombosis (ST) in patients with ST-elevation acute myocardial infarction (STEMI) by performing comprehensive meta-analyses of randomized controlled trials (RCTs) and observational studies. METHODS: We searched Ovid-Medline, Cochrane Library, and conference proceedings for studies comparing outcomes between DES and BMS among STEMI patients presented through September 2009. The quality of studies was evaluated by using the Cochrane’s risk of bias for RCTs and MINORS(Methodological Index for Non-Randomized Studies) for observational studies. The relative risk (RR) using the inverse variance random-effects method for each study outcome was calculated. RCT and observational data were analyzed separately. To assess heterogeneity of RRs across trials, we used the Cochrane’s Q-statistic and I²-statistic. Subgroup analyses were performed by length of follow-up and meta-regression was used to predict outcomes of predictors by stent-type, funnel plots, the Egger-test, and the Begg-test were used to assess publication-bias. To assess the quality of the evidence, we used GRADEpro. RESULTS: Fifteen RCTs were identified (N = 7,654, kappa-statistic = 0.90). Compared with BMS, DES significantly reduced TVR (RR: 0.48; 95% confidence interval [CI]: 0.41–0.56) and MI (RR: 0.70; 95% CI: 0.60–0.96), without increasing death (RR = 0.89; 95% CI: 0.78–1.01) and ST (RR: 0.93; 95% CI: 0.72–1.21). Among 35 observational studies (N = 4,484), DES significantly reduced death (RR: 0.85; 95% CI: 0.79–0.91) and TVR (RR: 0.61; 95% CI: 0.48–0.77). MI and ST were significantly lower in the DES group (within the acceptable range of funnel plot), with no heterogeneity between trials. There was no evidence of statistical heterogeneity and publication bias. Among RCTs, the quality of the evidence was assessed as “High”, death and MI as “moderate”, and ST as “low”. The quality of the evidence from observational studies was assessed as “very low” or “low.” CONCLUSIONS: These data in aggregate suggest that using DES in STEMI patients are safe and efficacious but there are differences between RCT and observational data comparing DES and BMS.

PCV143

BELIEFS ABOUT ANTHYPERTENSIVE MEDICATIONS IN PRIMARY CARE PATIENTS: VALIDATION OF BELIEFS ABOUT MEDICINES QUESTIONNAIRE (BMQ) IN COLOMBIA

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OBJECTIVES: Determine the factor structure of the Beliefs about Medicines Questionnaire (BMQ) and examine the association of medication beliefs with medication adherence. METHODS: Seventeen patients who used antihypertensive drugs participated in semi-standardized interviews. Interviews were recorded and reviewed by two investigators. The medication adherence was measured using the method of count of tablets. An exploratory factor analysis was performed. Multiple linear regression was used to determine whether beliefs about medications were significantly associated with medication adherence. RESULTS: Factor analysis resulted in a two solution, explaining 46.7% of cumulative variance among respondents. The factors were labeled: Overuse (Concerns about the way doctors use medications) and Harm (Beliefs that medications are harmful). Cronbach’s alpha coefficient was 0.71. Beliefs about medications (Overuse and Harm) were significantly associated with non-adherence to antihypertensive drugs. CONCLUSIONS: The factorial structure of BMQ was similar than previously reported in other medical conditions. Also these findings suggest that in addition to telling patients how to take their medications, primary care physicians should educate patients about short and long-term effects of the medication and all possible therapeutic alternatives to improve the adherence to antihypertensive medication.

PCV144

DERIVING DOCTORS’ PRESCRIBING PATTERNS FROM CLAIMS DATA: AN APPLICATION TO ANTICOAGULANT USE IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION

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OBJECTIVES: Doctors’ practice and prescribing patterns are based on many factors, some of which are not observable. We derived doctors’ prescribing patterns from U.S. claims data to show how it might be related with decisions on anticoagulant use for venous thromboembolism (VTE) treatment. METHODS: Based on U.S. claims data, we assigned doctors’ IDs based on the physician who treated the enrollee for the longest period of time during his/her enrollment, eliminating any emergency department, laboratory, and radiology services. Physician prescribing patterns were then calculated from prescription drug records. Patients were grouped as compliant and non-compliant to warfarin. RESULTS: We identified the doctors’ prescribing pattern with the percentage of time they prescribed warfarin, injectable anticoagulants, antiplatelet, anti-arrhythmics, rate control drugs and other drugs. We showed that patients were more likely to be compliant to warfarin if their physician’s prescribing pattern favored warfarin. Patients were less compliant if their physician’s prescribing pattern favored injectable anticoagulation or antiplatelet. There were no effects on compliance if doctors’ prescribing patterns favored anti-arrhythmics or rate control drugs. CONCLUSIONS: Doctors’ prescribing patterns are important factors for patient compliance. Therefore, failing to control for these patterns in compliance models might lead to omitted variable bias.

PCV145

IMPACT OF A SEMINAL STUDY ON PRACTICE PATTERNS: STATIN USE BEFORE AND AFTER THE JUPITER STUDY

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OBJECTIVES: To determine whether there was a change in statin use patterns after release of results from the JUPITER study using a nationally-representative Electronic Medical Record (EMR) database. METHODS: The EMR database reviewed was the Medical Quality Improvement Consortium (MQIC) database from GE. This database contains EMR data collected from over 11,000 ambulatory providers in the United States and includes over 12 million patients as of April, 2009. Records were reviewed for the total database before and four months after. Among adults 18 years of age, new statin usage (4 months before and after) and switches involving rosuvastatin, the statin in the JUPITER study, were counted. RESULTS: Of over 9.4 million adults, over 1.2 million (13%) are recorded as taking a statin. The proportion of statin usage remained consistent before and after 4 months with percentage of use among the patients as follows: rosuvastatin (11%), simvastatin (32%), atorvastatin (49%), and pravastatin (9%). After the approval of statin-replacement, there was a significant decrease in the use of pravastatin (<0.05). CONCLUSIONS: Although JUPITER is already considered a seminal study by many, it has not yet impacted clinical practice, suggesting a time lag in getting evidence into practice. This EMR database provides a valuable data source to monitor real-time, real-world prescribing practices, and will permit further exploration of relevant patient characteristics, such as CRP and LDL levels, and outcomes that is not possible using administrative datasets.

PCV146

STATIN USE BEFORE AND AFTER CABG PROCEDURE

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OBJECTIVES: Statin therapy has been shown to reduce disease progression following coronary artery bypass graft procedure (CABG). Recommendations include low-fat diet and cholesterol-lowering medications after bypass surgery to reduce subsequent graft attrition. The objectives of the study were to: 1) examine the percent of participants who were prescribed a statin within a month post CABG procedure; 2) identify predictors of statin use post CABG METHODS: Participants with CABG anywhere during 2003–2008 and their statin use pre-post CABG were identified using de-identified administrative medical claims and administrative pharmacy claims respectively. Date of CABG was considered the index date for the study analysis. The variables to predict a new script for statin included use of statin before CABG, age, gender, physician specialty, other co-morbidities, and the number of other medications. A logistic regression was used to estimate the likelihood of statin utilization post CABG. RESULTS: The study cohort consisted of 10,418 patients who underwent CABG during the study period. The mean age of the cohort was 70.3 ± 11.2 years, and 75% of the patients were male. During the 1-year period before CABG surgery, 40% of patients utilized prescription statin therapy. 47% of patients filled a statin prescription within 1 month of CABG procedure. 24% of the patients did not have prescription claims for statins at any time post CABG. The likelihood of filling a prescription for statin post CABG was 5.91 (95% CI: 4.89–6.21) higher in patients who utilized a statin prior to CABG. Males were 1.36 times more likely to utilize a statin than females (95% CI: 1.22–1.51) CONCLUSIONS: A significant proportion of patients do not utilize statins after CABG, missing effective drug therapy. The use of statin before CABG is a significant predictor of statin use post-CABG.