Diabetic patients with continuous coverage from January 2002 to December 2004 in a state Medicaid program, and who had an index prescription claim for ACEI/ARB in the first six months of 2002 were included in the study. Adherence with ACEI/ARB therapy was measured using the proportion of days covered (PDC) during the 12-month follow-up period. Nonadherence was defined as PDC ≤0.8. The primary outcomes of interest were diabetes-related hospitalization and all-cause mortality in the follow-up period (end of post-index period to December 31, 2004). Multivariate regression analyses were performed to assess the independent effect of nonadherence with ACEI/ARB therapy on health care outcome measures. RESULTS: Among a total of 14,426 patients meeting inclusion criteria, among them, 75% were females and the mean age was 60.5 ±14.2 years. About 69% were nonadherent with prescribed ACEI/ARB therapy. During follow-up, 10.9% patients had diabetes-related hospitalizations and 1.1% died for any reason. After accounting for baseline differences, patients with ≥90% adherence to ACEI/ARB had a lower risk of 9% (OR: 0.91; 95%CI: 0.72−1.19) for diabetes-related hospitalization and 14% (OR: 0.86; 95%CI: 0.75−1.00) for all-cause mortality compared to patients with <90% adherence. CONCLUSIONS: Nonadherence to ACEI/ARB appears to be associated with decreased number of emergency room (ER) visits (0.052 ± 0.001, p < 0.0001), decreased hospitalization (0.025 ± 0.004, p < 0.0001), increased number of outpatient visits (10.02 ± 0.67, p < 0.001) and increased number of prescription fills (33 ± 0.89, p < 0.0001). Mean adjusted number of hospitalizations in patients compliant with only diabetes medication (0.11 ± 0.31, p = 0.01) was significantly higher than those compliant with both diabetes and CVD medications (0.08 ± 0.22, p = 0.01) or compliant with only diabetes medication (0.08 ± 0.20, p = 0.001). CONCLUSIONS: Compliance with multiple medications was significantly associated with a decrease in the number of ER visits and hospitalizations in a California Medicaid population with type II diabetes and comorbid CVD.

Abstracts

Diabetic patients with continuous coverage from January 2002 to December 2004 in a state Medicaid program, and who had an index prescription claim for ACEI/ARB in the first six months of 2002 were included in the study. Adherence with ACEI/ARB therapy was measured using the proportion of days covered (PDC) during the 12-month follow-up period. Nonadherence was defined as PDC ≤0.8. The primary outcomes of interest were diabetes-related hospitalization and all-cause mortality in the follow-up period (end of post-index period to December 31, 2004). Multivariate regression analyses were performed to assess the independent effect of nonadherence with ACEI/ARB therapy on health care outcome measures. RESULTS: Among a total of 14,426 patients meeting inclusion criteria, among them, 75% were females and the mean age was 60.5 ±14.2 years. About 69% were nonadherent with prescribed ACEI/ARB therapy. During follow-up, 10.9% patients had diabetes-related hospitalizations and 1.1% died for any reason. After accounting for baseline differences, patients with ≥90% adherence to ACEI/ARB had a lower risk of 9% (OR: 0.91; 95%CI: 0.72−1.19) for diabetes-related hospitalization and 14% (OR: 0.86; 95%CI: 0.75−1.00) for all-cause mortality compared to patients with <90% adherence. CONCLUSIONS: Nonadherence to ACEI/ARB appears to be associated with decreased number of emergency room (ER) visits (0.052 ± 0.001, p < 0.0001), decreased hospitalization (0.025 ± 0.004, p < 0.0001), increased number of outpatient visits (10.02 ± 0.67, p < 0.001) and increased number of prescription fills (33 ± 0.89, p < 0.0001). Mean adjusted number of hospitalizations in patients compliant with only diabetes medication (0.11 ± 0.31, p = 0.01) was significantly higher than those compliant with both diabetes and CVD medications (0.08 ± 0.22, p = 0.01) or compliant with only diabetes medication (0.08 ± 0.20, p = 0.001). CONCLUSIONS: Compliance with multiple medications was significantly associated with a decrease in the number of ER visits and hospitalizations in a California Medicaid population with type II diabetes and comorbid CVD.

PODUM SESSION III: CARDIOVASCULAR OUTCOMES

RESEARCH STUDIES

CV1

PERIOPERATIVE BLOOD PRESSURE CONTROL DURING CARDIAC SURGERY REDUCES HOSPITALIZATION COSTS

Lishak K1, Stolar M2, Wang Y1, Alvarez P2, Hu MY3, Williams GC3, Ferguson J3, Aronson J1, Mhtzu AS1, Dyke CM1, Getisio D1

1University of Southern California, Los Angeles, CA, USA, 2GlaxoSmithKline, RTP, NC, USA

OBJECTIVES: To investigate the association of multiple medication compliance with health care utilization. METHODS: We identified patients 240 years of age with a diagnosis of type II diabetes and comorbid cardiovascular disease (CVD) including hypertension, coronary artery disease, and heart failure from California Medicaid claim data between 2002 and 2004. Proportion of days covered 20.8 was used to assess medication compliance. Multivariate two-part models were used to determine health care utilization in 2004 across different medication compliance statuses after controlling for confounding factors. RESULTS: A total of 21,740 patients were analyzed. Only 18% of patients were compliant with both diabetes and CVD medications, 32% compliant with only diabetes medication, and 7% with only CVD medication. Adherence to both diabetes and CVD medications was significantly associated with decreased number of emergency room (ER) visits (0.052 ± 0.01, p < 0.0001); decreased hospitalization (0.025 ± 0.004, p < 0.0001), increased number of outpatient visits (10.02 ± 0.67, p < 0.001) and increased number of prescription fills (33 ± 0.89, p < 0.0001). Mean adjusted number of hospitalizations in patients compliant with only diabetes medication (0.11 ± 0.31, p = 0.01) was significantly higher than those compliant with both diabetes and CVD medications (0.08 ± 0.22, p = 0.01) or compliant with only diabetes medication (0.08 ± 0.20, p = 0.001). CONCLUSIONS: Compliance with multiple medications was significantly associated with a decrease in the number of ER visits and hospitalizations in a California Medicaid population with type II diabetes and comorbid CVD.

CV2

USING AN INTERRUPTED TIME SERIES ANALYSIS TO ASSESS THE IMPACT OF VALSARTAN INITIATION ON MEDICAL COSTS FOR PATIENTS WITH HYPERTENSION

Sun Y1, Cheng JR2, Zhang F3, Kabhir K4

1Kailo Research Group, Indianapolis, IN, USA, 2Novartis Pharmaceuticals Corporation, Medical, East Hanover, NJ, USA

OBJECTIVES: This study examines whether valsartan initiation is associated with a post-initiation reduction in medical costs among hypertensive patients. METHODS: A retrospective interrupted time series design was used with a large, US national claims database for the period of 2004-2008. Hypertensive patients who initiated valsartan between the ages of 20 and 63, and had continuous enrollment for 12 months pre- and 24-months post- valsartan initiation were selected. Patients’ monthly medical costs were calculated based on individual claims. To detect a post-initiation reduction in the medical costs, interrupted time series models were developed with the following key covariates: valsartan initiation, initiation month, pre-initiation month, and post-initiation month. A similar time series model was used to forecast post-initiation medical costs for the same patients had they not initiated valsartan. The number of post-initiation months before the actual medical costs converged with the forecasted medical costs was assessed as the time needed to reach the cost-effectiveness point. RESULTS: Patients (N = 18,269) had mean age of 53 ± 8 at the valsartan initiation date, and 53% of them were female. The most common co-morbid conditions were dyslipidemia (52%), diabetes (24%), hypertension with complications (17%), and ischemic heart disease (13%). The time series model estimated that medical costs were increasing after 10 months per month (p < 0.01 prior to valsartan initiation, and decreasing after $6 per month (p < 0.01) after the initiation. The actual medical cost reduction after valsartan initiation was statistically significantly lower (P < 0.01) than the forecasted medical costs after the 2nd month. Similar trend was also observed in hypertension-related medical costs. CONCLUSIONS: Hypertensive patients experienced increasing monthly medical cost prior to valsartan initiation. However, after initiation, there was a statistically significant decrease in medical costs, which after only two months was significantly lower than the forecasted costs of the same patients had they not initiated valsartan.

CV3

EFFECT OF BIVALIRUDIN ON ECONOMIC OUTCOMES OF STEMI PATIENTS IN AN OBSERVATIONAL DATASET

Kessler DP

Stanford University, Stanford, CA, USA

OBJECTIVES: Observational data provide an opportunity to assess drug efficacy in the real world. However, because treatment decisions may be based on prognosis, estimates of treatment effects obtained from observational data may suffer from “confounding by indication.” To address this concern, we used a grouped-treatment approach to determine the impact of choice of antiplatelet on length of hospital stay (LOS) and cost in patients undergoing percutaneous coronary intervention (PCI). METHODS: We analyzed the Premier Perspective Database for all patients aged 218 years admitted to Premier hospitals with a diagnosis of ST-elevated myocardial infarction (STEMI) and ≥1 procedure code for PCI between Q12004 and Q12008 (N = 71,236). We constructed individual-level models of LOS and cost, similar to those in a conventional multivariate analysis, except that each individual’s actual treatment variables were replaced with grouped-treatment variables (the proportion of patients receiving each treatment at the hospital/ year in which treatment occurred). We used linear regression to assess the impact of the likelihood of treatment with bivalirudin or heparin GPI (GPI). RESULTS: Bivalirudin was associated with a shorter LOS in LOS of 0.917 days (95% CI: −1.393, −0.441) and a reduction in cost of $4,554 (95% CI: −7,936, −1,172) compared to heparin + GPI. CONCLUSIONS: Increasing the proportion of a hospital’s patients treated with bivalirudin was associated with a significant compared to heparin + GPI reduction in hospital costs by $5080, ranging from $891-$4444 depending on the surgery group. CONCLUSIONS: Effective perioperative BP control in patients undergoing cardiac surgery has a significant impact on hospitalization costs.