HEART FAILURE RISK OF THIozOLIDINEDIONES IN A MEDICAID MANAGED CARE POPULATION

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OBJECTIVES: There is some concern that thiazolidinediones (TZDs) may be associated with an increased risk of heart failure. This study compares risk of heart failure in patients initiated on TZDs or metformin in a Medicaid Managed Care Organization (MCO). METHODS: Retrospective cohort study using prescription and medical claims of Medicaid MCO patients. The study included new users of either metformin or TZDs, 18 years or older with a first prescription between June 15, 2000 and June 15, 2002. We built logistic regression models to assess likelihood of developing heart failure after TZD or metformin use, adjusting for gender, age, race, urban/non-urban setting, and history of comorbidities including heart failure, diabetes, hypertension, hyperlipidemia, liver disease, and kidney disease. Risk of developing heart failure in patients initiated on TZDs was also compared to a propensity-matched sample of those initiated on metformin using multivariate logistic regression with stratification on matched pairs. RESULTS: Of 3397 patients in the study, those receiving TZDs (N = 905) were older (mean age 49) than those receiving metformin (N = 1755, mean age 46). Patients older than 60 (OR = 1.4, 95%CI: 1.1–1.8, P = 0.0123), Caucasian (OR = 1.3, 95%CI: 1.1–1.6, P = 0.0039) or residing in non-urban areas (OR = 1.4, 95%CI: 1.2–1.6, P < 0.0001), were more likely to be started on TZDs. Logistic regression results show older age (OR = 2.5, 95%CI: 1.4 to 4.4, P < 0.0001) and history of hyperlipidemia (OR = 0.7, 95%CI: 0.5 to 1.3, P = 0.0269) were significant predictors of heart failure. Initiation on TZDs or metformin is not a significant predictor of heart failure (OR = 1.3, 95%CI: 0.9 to 1.8, P = 0.0642). Results from the propensity adjusted model were consistent, showing no significant association between initiation on TZDs or metformin and heart failure (OR = 1.2, 95%CI: 0.9–1.5, P = 0.3381). CONCLUSIONS: In this Medicaid MCO population, there is no increased risk of heart failure after initiation of TZDs than after initiation of metformin.

Formulary Management

PRESCRIPTION DRUG COST-SHARING AND ANTICOAGULANT DRUG USE—UNINTENDED EFFECTS OF THINNER BENEFITS

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OBJECTIVES: We investigated the impact of a prescription drug plan with a $1000 annual benefit cap on drug consumption, adherence, and clinical events. METHODS: All subjects were 65+ years with Medicare insurance, had tiered copayments ($10 for generic & $20–35 for brand drugs), received an anticoagulant drug in 2002, and were members of an integrated, prepaid delivery system. We used linear and logistic regression models to examine the association between having a cap and drug consumption in 2003 (in dollars), and between having a cap and drug adherence (“adherent” if proportion of days covered ≥80.8). We used Poisson and negative binomial regression models to examine the association between having a cap and unfavorable clinical event rates (i.e., emergency department (ED) visits and non-elective hospitalizations). We adjusted for age, gender, race/ethnicity, socioeconomic status, comorbidity (DXCG scores), and medical center. RESULTS: The 17,615 subjects had a mean age of 76.7 years (SD = 6.8) and 51.1% were female. In 2003, 77.4% of subjects had a $1000 annual drug benefit cap, and the remaining subjects had no benefit limit. In the multivariate model, subjects with a cap consumed 28.4% less of all drugs and 21.7% less of anticoagulant drugs than their expected overall drug consumption if they had no cap (consumption in dollars, p-value <0.0001). Anticoagulant drug adherence was lower in cap versus non-cap subjects, e.g. OR = 0.74 (95% CI: 0.68–0.79). Finally, compared to non-cap subjects, cap subjects had increases in ED visit and non-elective hospitalization rates for any reason: RR = 1.16 (95% CI: 1.04–1.30) and RR = 1.14 (95% CI: 1.01–1.30), respectively. CONCLUSIONS: In patients age 65+, with Medicare insurance, and who received anticoagulant therapy, these preliminary results suggest that prescription drug benefit caps were associated with less drug consumption, lower treatment adherence, and higher unfavorable clinical event rates.