OBJECTIVES: The study aimed at performing an economic analysis in an American setting of the use of trandolapril in postinfarction patients with left ventricular dysfunction, based on the TRACE trial's individual data. METHODS: The TRACE study was a prospective placebo-controlled clinical trial designed to determine the long-term effect of trandolapril in postinfarction patients with left ventricular dysfunction. From 1992 to 1995, 1749 patients were followed. Our analysis was differential and was conducted from a Payer and a Medicare Perspective in an American setting. Unit costs were attached to uses of resources. Mean costs per Diagnosis Related Groups (DRGs) enabled to value hospital stays for cardiovascular events. Costs of treatments were obtained by multiplying the duration of exposure by daily tariffs. The cost analysis included a longitudinal analysis and multivariate regressions to identify cost drivers. The CE analysis consisted in the estimation of the additional cost per life-saved of treating patients with trandolapril. Uncertainty surrounding the estimate of the CE ratio was taken into account through a bootstrap analysis. RESULTS: The mean costs of treatment with trandolapril reached US$550 in the Payer Perspective. It was over compensated by financial savings in hospitalisations (US$–1308). The total medical cost was lower (not significantly) in the trandolapril arm, with US$9607 versus US$9953. There was a trend towards an increase in the cost differential in favor of trandolapril on the long run. Mean cost drivers were diabetes (OR: 1.88; 95% CI: 1.4,2.3) and nitrate use (OR: 1.67; 95% CI: 1.3,2.1) at inclusion. Among 5000 resamples of cost and mortality differentials, trandolapril was respectively cost-effective and cost-saving in 33.3% and 66.7% of the cases. The CE analysis provided similar results in the Medicare perspective. CONCLUSIONS: These results obtained in an American setting could be considered as highly cost effective.

IMPACT OF ANEMIA ON HF HOSPITAL LENGTH OF STAY: LONGITUDINAL ANALYSIS OF A LARGE ADMINISTRATIVE DATABASE

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OBJECTIVES: Anemia is known to affect clinical and physiological outcomes in heart failure (HF) patients. We investigate how changing hemoglobin levels influence hospital length of stay (LOS) in HF patients across multiple hospitalizations. Methodological obstacles in applying 2-stage least squares (2SLS) panel data methods in administrative data are also discussed. METHODS: A panel dataset was assembled from claims data representing 1363 patients with 2 or more HF inpatient stays in 21 hospitals nationwide during the 1-year period, October 1, 2000 through September 30, 2001. LOS is modeled as a function of hemoglobin level, patient demographics, procedures performed during hospitalization and hospital characteristics. To address endogeneity of hemoglobin and LOS, hemoglobin level is instrumented for, using indicator variables for hematnic prescriptions and deficiency anemia diagnoses. Encounter data are not collected at equal intervals. Thus, a key methodological hurdle is identifying the minimum interval between encounters meeting assumptions of 2SLS-panel methods. Validity of model specifications is explored. Between-effects and fixed-effects models are developed and compared. RESULTS: For all hemoglobin levels, there is a slight secular decrease in LOS in the second hospitalization during the study period. However, patients experiencing the greatest decrease in LOS are those who move from being anemic in their first stay to having normal hemoglobin levels in their second stay. Between-effects models indicate that a 1% improvement in hemoglobin level between patients is associated with a 0.5% (p < 0.001) decrease in LOS versus the other patients, controlling for other factors. Fixed-effects models show that a 1% increase in individual hemoglobin level is associated with a 3.6% (p < 0.001) decrease in LOS for that individual. CONCLUSIONS: Results suggest the impact of hemoglobin levels on LOS is greater within individual patients hospitalized for HF than between individual patients. Findings must be confirmed in randomized, controlled trials.

COST-EFFECTIVENESS OF RAMIPRIL IN PREVENTING CARDIOVASCULAR EVENTS IN HIGH-RISK PATIENTS

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OBJECTIVES: The Heart Outcomes Prevention Evaluation (HOPE) study showed significant mortality and morbidity benefits associated with ramipril in high-risk patients. Cardiac mortality was significantly reduced from 8.1% in placebo to 6.1% in ramipril (RR, 0.74; p < 0.001). The objective of this study is to contrast multiple cost-effectiveness (CE) scenarios of ramipril in preventing CV events in high-risk patients. METHODS: Applying retrospective decision analytic technique, CE analysis from a payer perspective was conducted using direct medical costs of clinical events from the literature and efficacy data from the HOPE study. Expected cost was estimated using probabilities associated with fatal and non-fatal myocardial infarction, stroke and other CV events. CE analysis was conducted under three alternate scenarios of within-trial analysis based on cost and outcome during the trial period of 4.5 years, persistent benefit analysis based on the assumption of therapy being discontinued beyond trial period and an extended benefit analysis assuming patients continued on therapy beyond trial period. Based on life expectancy for a similar cohort reported in the literature, persistent-benefit of therapy was assumed for a period of 11.6 years. Extended benefits were obtained by extrapolating within trial efficacy beyond the study duration. CE analysis was conducted to