Abstracts

also resulted in a positive short- and long-term health economic benefit in acutely ill medical patients. The health-economic benefit of enoxaparin was positively related with the length of the follow-up period and a higher risk for recurrence of VTE and mortality in asymptomatic patients.

COST EFFECTIVENESS OF ENOXAPARIN VS. UNFRACTIONATED HEPARIN FOR THE PROPHYLAXIS OF DVT AND SUBSEQUENT LONG-TERM COMPLICATIONS IN TOTAL HIP REPLACEMENT SURGERY IN THE UNITED KINGDOM

Botteman M1, Cohen AT2, Nadipelli V3, Stephens J1, Pashos CL4, Caprini J5
1Abt Associates Clinical Trials, Bethesda, MD; 2Guy’s, King’s & St. Thomas’ School of Medicine, London, UK; 3Aventis Pharmaceuticals, Inc, Bridgewater, NJ; 4Abt Associates Clinical Trials, Cambridge, MA; 5Evanston Hospital, Evanston, IL

The post-thrombotic syndrome (PTS) is a serious long-term complication of deep-vein thrombosis (DVT) that may only be avoided by preventing the initial DVT. No pharmacoeconomic assessment of low molecular weight heparin (LMWH) has included the impact of reducing these long-term complications in the UK.

OBJECTIVES: To determine the cost effectiveness of LMWH (enoxaparin, 7 days, 40 mg daily) versus unfractionated heparin (UFH, 7 days, 15,000 units daily) for the universal prophylaxis of DVT and PTS in patients undergoing total hip replacement surgery (THRS).

METHODS: A probabilistic health-state transition model using a Monte-Carlo (MC) simulation was developed to project the long-term cost-effectiveness of the two strategies in a cohort of 10,000 patients. The risk of developing a DVT in the short term (i.e., two weeks) was estimated using epidemiological and clinical trial data. Patients who survived a DVT in the short term were exposed to the long-term risk of PTS and recurrent VTE whereas other surviving patients were only exposed to the long-term risk of idiopathic PTS and VTE. Economic literature and expert opinion served as input for the model’s resource use and costs for DVT prophylaxis, clinical diagnosis and treatment of DVT, PE, and PTS. Five thousand MC simulations were run on the model.

RESULTS: In the baseline, point-estimate analysis, LMWH use prevented 240 DVTs and 13 deaths in the short term compared to UFH, and resulted in net savings of £10 per patient. In the long term, LMWH saved an additional £36 in DVT complication costs. LMWH was the dominant strategy in 70% of cases and was cost-effective in 72% overall.

CONCLUSION: This is the first economic analysis comparing LMWH and UFH that includes the long-term complications of DVT. Our model indicates that the inclusion of these long-term complications supports the widespread use of LMWH in patients undergoing THRS.

A COST-EFFECTIVENESS ANALYSIS OF THE USE OF CARVEDILOL COMPARED TO BISOPROLOL IN CHRONIC HEART FAILURE

Squire I1, Hebborn A1, Ratcliffe A2, McGuire A3
1University of Leicester, Leicester, UK; 2F. Hoffman-La Roche, Basel, Switzerland; 3Roche Products Ltd, Welwyn Garden City, UK; 4City University London, London, UK

OBJECTIVE: To estimate the cost-effectiveness of carvedilol relative to bisoprolol as adjunctive beta blocker (BB) therapy in patients with chronic heart failure.

METHODS: Comparison of survival benefits was performed using the CIBIS-II placebo group as a representative cohort not treated with a BB. Using parametric survival analysis, five-year survival estimates were calculated for bisoprolol and carvedilol based on published data for the major mortality studies of the two BBs with similar placebo mortality risks (CIBIS-II (hazard ratio 0.66) and US Carvedilol Trial Program (hazard ratio 0.35)). Limited and extended benefit scenarios were estimated under varying assumptions about the sustainability of BB treatment effect. Under the limited benefits scenario the treatment effect was conservatively assumed to last only until the end of the reported trial periods. The extended benefits scenario was assumed to persist up to five years. Taking the perspective of the UK NHS we estimated differences in treatment costs (medication, outpatient/GP visits, hospitalization), and absolute mortality benefits to form an incremental cost-effectiveness ratio.

RESULTS: The estimated benefit per patient at five years under the extended benefits scenario was 145 days (0.398 yr.) for bisoprolol and 301 days (0.823 yr.) for carvedilol. The corresponding figures for the limited benefits scenario are 93 days (0.254 yr.) for bisoprolol and 119 days (0.325 yr.) for carvedilol. Over five years the estimated incremental cost-effectiveness ratio of carvedilol compared to bisoprolol is £5,900 per LYG under extended benefit scenarios respectively.

CONCLUSIONS: Carvedilol represents a cost-effective adjunctive treatment compared to bisoprolol in patients with chronic heart failure. Statistical extrapolation indicates that the relatively greater mortality benefits associated with carvedilol relative to bisoprolol are accrued at a cost, which compares favourably with that of many other common cardiovascular treatments such as statins and ACE inhibitors.

COST-EFFECTIVENESS STUDY TO DETERMINE THE IMPACT OF A TOBACCO OUTREACH PROGRAM FOR ADOLESCENTS

Lal L, Philip O, Mehta C
Texas Southern University, Houston, TX, USA

OBJECTIVE: The goal of this study is to evaluate and determine the cost-effectiveness (CE) of a college of pharmacy’s tobacco outreach program targeting thirteen- to