CONCLUSION: Superior clinical efficacy combined with substantial cost savings for at least one year of follow up conferred to enoxaparin a place of choice in acute cardiology therapy.

COST-EFFECTIVENESS OF CLOPIDOGREL COMPARED WITH TICLOPIDINE IN THROMBOSIS PREVENTION: DECISION ANALYSIS TAKING INTO ACCOUNT SIDE-EFFECTS
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OBJECTIVE: To determine the cost-effectiveness of thrombosis prevention with Clopidogrel versus Ticlopidine in Russia, taking into account side effect such as agranulocytosis (neutropenia) using a decision analysis.

METHODS: Pharmacoeconomic comparison using a decision-tree model was based on the assumption that Ticlopidine (250 mg daily) causes short-duration neutropenia in 0.8% of patients compared to 0.04% of patients on Clopidogrel (37.5 mg daily) one month after treatment starts. The probabilities of neutropenia were derived from multi-center clinical trials of antithrombotic therapy safety. Calculated costs included cost of study drugs and direct medical costs for neutropenia treatment. A neutropenia treatment scheme was analyzed by reviewing medical charts of patients with short-duration neutropenia at the Federal Hematological Center. Effectiveness was measured by percentage reduction in spontaneous platelet aggregation (SPA) in a comparative clinical study including 70 patients with thrombophilia. Cost effectiveness ratio (CER) was defined for both drugs and incremental cost-effectiveness ratio (ICER) was determined.

RESULTS: The mean costs of medication treatment were 1221 rubles (42,1$) for Clopidogrel and 795 rubles (27,4$) for Ticlopidine. The median direct medical cost for treatment of neutropenia was 28,126 rubles (969,9$) per patient. Expected costs for antiplatelet therapy, taking into account the probability of neutropenia, was 1020 rubles (35,2$) for Ticlopidine and 1221 rubles (42,1$) for Clopidogrel. The ICER for Clopidogrel vs. Ticlopidine (250 mg daily) causes short-duration neutropenia in 0.8% of patients compared to 0.04% of patients on Clopidogrel (37.5 mg daily) one month after treatment starts. The probabilities of neutropenia were derived from multi-center clinical trials of antithrombotic therapy safety. Calculated costs included cost of study drugs and direct medical costs for neutropenia treatment. A neutropenia treatment scheme was analyzed by reviewing medical charts of patients with short-duration neutropenia at the Federal Hematological Center. Effectiveness was measured by percentage reduction in spontaneous platelet aggregation (SPA) in a comparative clinical study including 70 patients with thrombophilia. Cost effectiveness ratio (CER) was defined for both drugs and incremental cost-effectiveness ratio (ICER) was determined.

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CONCLUSION: The cost-effectiveness ratios for epftibatide in the UK all fall within an acceptable range for adopting new technology. The impact of resource consumption data on the cost-effectiveness ratio underscores the importance of the source of treatment-pattern data and the need for prospective or retrospective data collection to reflect country-management styles.

A PHARMACOECONOMIC ANALYSIS OF PATIENT OUTCOMES IN THE CORONARY ANGIOPLASTY AMLODIPINE RESTENOSIS STUDY (CAPARES) IN NORWAY AND CANADA
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OBJECTIVE: To conduct an economic analysis of the PURSUIT trial in the UK for patients with unstable angina or non-Q-wave myocardial infarction (MI) admitted to hospital and randomized to epftibatide (GPIIb/IIIa) or placebo in addition to usual therapy.

METHODS: Health-care resource consumption was collected prospectively for all patients in the PURSUIT trial. Unit costs were developed for the UK and applied to the resources consumed in the trial to estimate the cost per patient treated during index hospital stay and at six months follow-up. Analyses were conducted using resource consumption from the UK sub population, Western European (WE) sub population, and the total PURSUIT trial population. Long term outcome measures were based on life expectancy estimated from six-month PURSUIT data of the WE sub-population and the North American (NA) + WE sub populations.

RESULTS: Initial hospital and six-month costs for epftibatide patients including drug cost were slightly higher than the placebo group using the WE and overall trial population resources. UK-specific resource consumption was lower in the epftibatide group. The difference in 30-day rate of death and MI was 1% (NS) for WE and 1.5% (p = 0.04) for the overall trial. At six months, MI rates were further decreased for epftibatide but no difference existed in mortality between the groups. The CE ratios (discounted at 3%) using WE or overall resources are £8,436 and £12,591 respectively using WE survival or £3,418 and £5,036 using WE + NA survival. Using UK resources, epftibatide is cost saving in either survival scenario.

CONCLUSION: The cost-effectiveness ratios for epftibatide in the UK all fall within an acceptable range for adopting new technology. The impact of resource consumption data on the cost-effectiveness ratio underscores the importance of the source of treatment-pattern data and the need for prospective or retrospective data collection to reflect country-management styles.
METHODS: A decision-tree model was constructed to determine the total expected cost per patient for a four-month time period following an initial angioplasty. The model used clinical data from the Coronary Angioplasty Amlodipine Restenosis Study (CAPARES), a four-month, multicenter, double-blind, placebo-controlled trial conducted to investigate the effect of amlodipine on restenosis and clinical events in patients undergoing PTCA. Clinical endpoints of interest included MI, repeat PTCA, CABG, and all-cause mortality. Clinical experts from Canada and Norway were enlisted and a modified Delphi study approach was used to estimate the amount of health-care resources consumed for each clinical outcome.

RESULTS: The adjunctive use of amlodipine improved the four-month success rate of angioplasties by 9.4% (83.7% vs 93.1%). In other words, there was a decrease in the number of adverse clinical endpoints after an angioplasty. There was an absolute reduction of 2.0%, 4.7%, and 2.7% in the rate of MI, PTCA, and CABG, respectively. The total expected cost per patient using amlodipine was $6,398 (US$4,328) in Canada and kr35,652 (US$4,004) in Norway. The total expected cost per patient not using amlodipine was $6,519 (US$4,410) in Canada and kr37,150 (US$4,172) in Norway. The model demonstrated the magnitude of the potential savings resulting from the improved clinical outcomes for patients using amlodipine with PTCA. Overall, fewer health resources were utilized by amlodipine patients, resulting in savings in total expected cost of treatment of $121 (US$82) in Canada and kr1,498 (US$1,618) in Norway.

CONCLUSIONS: The adjunctive use of amlodipine is a cost-effective therapeutic strategy to achieve more favorable clinical outcomes in patients undergoing PTCA in Canada and Norway.

THE COST-EFFECTIVENESS OF LEVOSIMENDAN IN SEVERE LOW-OUTPUT HEART FAILURE COMPARED TO DOBUTAMINE BASED ON AN INTERNATIONAL CLINICAL TRIAL (LIDO)

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Levosimendan is a novel intravenous drug that increases the calcium sensitivity of cardiac myofilaments, improves haemodynamic function and symptoms, and decreases relative mortality of patients with low-output heart failure.

OBJECTIVE: To estimate the cost-effectiveness of treatment with levosimendan compared to dobutamine in patients with severe low-output heart failure.

METHODS: The economic evaluation was based on a European clinical trial (LIDO), in which 203 patients with severe low heart failure were randomised to 24h infusion with either levosimendan or dobutamine. Survival and re-source utilisation data were collected for six months, and survival was extrapolated up to three years based on data from the CONSENSUS trial. Costs were based on drug usage and hospitalisation in the LIDO trial and the six-month follow-up. The price of levosimendan was arbitrarily set at €668 (USD 600) per 5 ml vial, whereas the mean actual cost of dobutamine in the eight countries participating in the study was calculated (€13.70 per vial). The mean cost of a hospital day in the eight countries was used (basis 1998).

RESULTS: The mean survival over six months was 157 (SD 51.5) days in the levosimendan group and 139 (SD 64.0) days in the dobutamine group (p < .01). When extrapolated up to three years, the gain in life expectancy was estimated at 0.35 years (discounted by 3%). Levosimendan increased the average cost per patient by €1,154. The incremental cost per life year saved (LYS) was €3,340. When accounting for a cost in added years of life, the incremental cost per LYS was higher, as expected. For example in Sweden, the cost per LYS increased from €3,000 to €20,800.

CONCLUSIONS: The cost per LYS using levosimendan, both with and without accounting for costs in added years of life, compares favourably with other cost-effectiveness analyses in cardiology, e.g. USD 33,000/LYS for TPA treatment in the GUSTO trial.

A COMPARISON OF HEALTH-CARE UTILIZATION AND COSTS OF PATIENTS WITH BRADYCARDIA ONLY AND BRADYCARDIA WITH ATRIAL TACHYARRHYTHMIAS IN THE US, UK AND GERMANY

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OBJECTIVE: Bradycardia is a common condition characterized by a heart rate of less than 60 beats per minute. Among patients with bradycardia, atrial tachyarrhythmias may also be present at the time of pacemaker implant, or may subsequently develop during the lifetime of the device. We conducted a study in the US, Germany and the UK to assess the additional burden of health-care utilization and associated costs imposed by atrial tachyarrhythmia among bradycardia patients.

METHODS: In the US, electronic claims including hospital inpatient admissions, emergency room admissions, outpatient physician visits, outpatient tests and procedures, and pharmacy claims data were obtained from a large-group model managed-care organization with broad geographic representation. In Europe, resource utilization data were collected via a survey of cardiologists (n = 5 in Germany, n = 4 in UK). For the survey, two patient groups were defined: patients with bradycardia and no coexisting atrial tachyarrhythmias, and those with co-existing diagnoses of bradycardia and atrial tachyarrhythmias.

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