ECONOMIC EVALUATION OF EZETIMIBE COMBINED WITH SIMVASTATIN FOR TREATMENT OF PRIMARY HYPERCHOLESTEROLEMA

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INTRODUCTION: Coronary heart disease (CHD) is a leading cause of death in the Western world. Hypercholesterolemia is an important risk factor for CHD. Ezetimibe, a cholesterol absorption inhibitor, can be used in combination with statins to improve cholesterol levels. OBJECTIVES: The aim was to assess cost-effectiveness of ezetimibe combined with simvastatin compared to atorvastatin or simvastatin monotherapy for second line treatment of primary hypercholesterolemia in the Dutch population.

METHODS: A published Markov model (Cook et al 2004) was adapted to evaluate two lipid treatment scenarios in The Netherlands. Baseline patient data from the Dutch EASEGO study were used. The first scenario was based on this study: patients not reaching low-density-lipoprotein cholesterol (LDL-C) goal on atorvastatin 10 mg (A10) or simvastatin 20 mg (S20) were included. These patients were modeled using a doubled dose, or addition of ezetimibe 10 mg to generic simvastatin (ezte10/sim40). The second scenario was based on Dutch guidelines. All patients were not meeting their LDL-C goal on simvastatin 40 mg (S40) and were switched to atorvastatin 40 mg (A40), or ezetimibe 10 mg was added to generic simvastatin (ezte10/sim40). Key effectiveness measure was change in ratio of total cholesterol to high-density-lipoprotein cholesterol. Model parameters were derived from published literature and guidelines. Cost-effectiveness analyses were performed for key model parameters. RESULTS: Based on EASEGO the incremental cost-effectiveness ratio for ezte10/sim20 was £3,497 per quality-adjusted life year (QALY) compared to A20 and £26,471 per QALY compared to S40. Based on Dutch guidelines, ezte10/sim40 was described as a beneficial treatment that can be cost-saving compared with A40 (£4,755/ QALY). These results were not very sensitive to changes in input parameters. CONCLUSIONS: Ezetimibe can be considered a cost-effective treatment (EASEGO versus A20 or S40) and in light of the Dutch guidelines (versus A40) even cost-saving. The addition of ezetimibe to simvastatin is a valuable second line treatment option.

COST EFFECTIVENESS OF MPLANTABLE LOOP RECORDERS (ILRS) FOR UNEXPLAINED SYNCPE DIAGNOSTICS IN FRANCE

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OBJECTIVES: Unexplained Syncope patients have 1.6 times the mortality risk of the average population. The “Eastbourne Syncope Assessment Study” (EasyAS; Farwell 2004) is an RCT which demonstrated a significantly higher diagnostic yield in unexplained syncope patients using ILRs (Reveal, Medtronic) (14/101 Patients diagnosed (33.7%) versus a conventional diagnostic strategy (4/97 Patients diagnosed (4.1%); p < 0.001) after a mean follow-up period of 9 months. The study also included detailed health care utilisation analysis, ultimately demonstrating a reduced cost-per-correct-diagnosis under the UK setting and significant reductions in patient costs derived from earlier treatment. We sought to replicate potential cost implications of ILR use in this patient population, from the perspective of the French Social Security. METHODS: We used EasyAS to assess the type and volume of diagnostic tests used. Direct medical costs were derived from the 2008 CCAM Procedure Tariff and DRG Tariff. Reveal selling price was used to assess ILR cost. RESULTS: The cost of a successful diagnosing an unexplained syncope patient with a Reveal is 4.7 times lower than the equivalent cost using a conventional strategy. This allows for a moderate ICER equal to £253.60 on a per-diagnosis basis. Two univariate sensitivity analysis on the device cost and the procedures cost showed little impact on the ICER. CONCLUSIONS: Although this analysis was based on UK short term data, its results are consistent with analyses performed in other developed countries. The analysis demonstrated an ICER below £4,000 on a per-cost-diagnosis basis. This could mean that ILR use in France has the potential for significant cost-savings in this patient population. The upcoming FR-Ech Syncope study on Holter monitoring (FRESH) should allow for a more precise assessment of cost-savings achieved with ILRs in France.

COST EFFECTIVENESS OF STATIN THERAPY IN SOUTH KOREA

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OBJECTIVES: The Korean government announced in December 2006 that only medications with good value for money, based on cost-effectiveness analysis, will be reimbursed in the Korean National Health Insurance scheme. The aim of this study was to evaluate cost-effectiveness of statin medications in Korea. METHODS: 115 published systematic reviews were selected to evaluate the clinical significance of 7 statin medications available in Korea: Atorvastatin, Lovastatin, Fluvastatin, Pravastatin, Rosuvastatin, and Simvastatin. Meta-analyses were conducted to summarize comparative effectiveness of statin medications. Costs of relevant diseases (Angina, MI, stroke) were estimated based on the claims data. Lifetime cost and health outcomes associated with statin treatment were projected based on a Markov model. A societal perspective was taken. Target population was 55-year-old Korean patients whose cholesterol level is elevated, with (secondary prevention) and without (primary prevention) previous history of CHD or CVD. RESULTS: The result of the meta-analysis suggests that statin therapy is associated with a relative risk of all cause mortality, CVD mortality, CHD mortality, MI, and angina, but not stroke mortality at statistically significant level. However, currently available evidence was not enough to suggest whether the clinical effectiveness of Atorvastatin, Fluvastatin, Lovastatin, Pravastatin, and Simvastatin was statistically significantly superior to the rest of the statin. No published study was found regarding Pitavastatin in CHD/CVD outcomes; Rosuvastatin study on CHD/CVD outcomes was only conducted among limited population. In Primary prevention, the incremental cost-effectiveness compared to KRW/LYG and KRW/QALY, in secondary prevention, the ICER decreased to KRW/LYG and KRW/QALY. The results of the sensitivity analyses were consistent with those of base case. CONCLUSIONS: Under current price, Statin therapy are less cost-effective when used as a primary prevention, compared with secondary prevention.

A PATIENT’S VIEW OF THE COST-EFFECTIVENESS OF USING LOW-DOSE ASPIRIN FOR CVD (CARDIOVASCULAR DISEASE) PRIMARY PREVENTION IN MIDDLE-AGED MEN IN THE UK

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OBJECTIVES: To evaluate from the patient’s perspective, the ICERs (Incremental Cost-Effectiveness Ratios) of using aspirin as UK guideline based CVD (Cardiovascular Disease) primary prevention in middle-aged men compared to no pharmacotherapy. METHODS: A Markov model was used to investigate the cost-effectiveness of low-dose aspirin in a hypothetical population of initially healthy men (55 years old) with 15% CVD risk, up to 100 years of age or death. The base-case scenario, it was assumed that all would take OTC (Over The Counter) aspirin. Those experiencing a CVD event would be switched to POM, (Prescription Only Medicine) aspirin plus statin. After a bleeding event, aspirin would be permanently discontinued. If the event was GI bleeding, aspirin was replaced by POM clopidogrel. All patients were assumed to pay prescription charges until aged 59. The main effect outcomes were QALYs (Quality-Adjusted Life Years) and LYG (Life-Years Gained). The main costs are prescription charges, purchase of OTC aspirin, income loss and travel costs. Published studies on the efficacy of aspirin and clopidogrel for primary prevention, their side effects and the NICE National Health technology assessment report “Statins for the Prevention of Coronary Events” published in 2005 were used as sources for transition probabilities, relative risks and utility values. Cost data were sourced from the NHS and “HM Revenue & Customs” databases, and average retail UK prices. RESULTS: The estimated incremental cost-effectiveness is cost saving of £200.44 (95% CI = -£142.10 to £64.48), gain of 0.044 (95% CI: 0.003-0.075) QALYs and loss of £0.017 (95% CI = -0.069 to 0.025) LYG. In univariate analyses, baseline CVD risk, income loss and aspirin effect on transitions from healthy to haemorrhagic stroke, cerebro-vascular death and GI bleeding had the greatest impact on the results. CONCLUSIONS: Low-dose aspirin